



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

### Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

### About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>



BOSTON  
MEDICAL LIBRARY  
8 THE FENWAY

















*Vol. IV., containing Numbers 37 to 48.*

---

THE  
**FOOD JOURNAL;**

A REVIEW OF

*Social and Sanitary Economy,*

AND

*Monthly Record of Food and Public Health.*

---

*"Appetite runs, whilst Reason lags behind."*

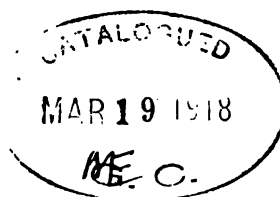
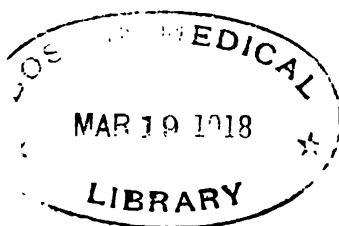
---

LONDON:  
J. M. JOHNSON & SONS, 3, CASTLE ST., HOLBORN.

---

SOLD BY SIMPKIN, MARSHALL & Co., AND ALL BOOKSELLERS.

1874.



PRINTED BY  
J. M. JOHNSON & SONS, AT THEIR STEAM PRINTING WORKS,  
56, HATTON GARDEN, LONDON.

## INDEX.

---

	PAGE
Adulteration Act.....	170, 276, 317, 359
,,    in Defiance of the New Act.....	183
,,    in France.....	224
Alexandre Dumas' Great Gastronomic Dictionary .....	130
Algoróbbó Bread .....	217
Australian Meat.....	312
 Bath Asparagus .....	 314
,,    Mineral Waters .....	340
"Bath Mineral Water Hospital" .....	455
Beer of Kafirdom .....	305
Bohemia Beautified .....	67
Bread Adulteration .....	119
 Central Food Laboratories .....	 70
Citron Fruits : Oranges and Lemons.....	380
Coal, Saving in consumption of .....	47
Cocoa Nut Tree.....	24
Coffee .....	405
Colonial Produce .....	248
Columbia Market .....	156
Condemned Food .....	6
Consolidated Tea .....	66
Consumption of Spirits .....	216
Contagious Diseases (Animals) Act .....	178
Cookery Papers .....	227, 415
Correspondence .....	39, 119, 159, 197, 312, 399, 439
"Criterion," The .....	411
Cultivation of Seakale .....	414
Culture of the Olive in Australia .....	286
 Dear Coal .....	 373
Deficient Alimentation.....	138
Dinner Giving .....	61
Disease Propagated by Milk .....	321
Diseases and Defects of Wine .....	52, 134

	PAGE
Domestic Hygiene—Drains.....	450
Domestic Recipes .....40, 80, 120, 160, 200, 240, 280, 320, 360, 400, 440, 479	
Economical Poultry Keeping .....	464
Economy of Fuel .....	361
Errata.....	8, 72, 399
Farinaceous Food .....	342
Ferruginous Green Tea .....	185
Fish .....	73
Fish Car, Novel .....	288
Food and Cookery at the International Exhibition .....	121, 161, 241
Food and Fuel .....	9
Food and Habits in relation to Longevity.....	127
Food and Lodging: a Retrospect .....	292
Food of Man.....	326
Food of the Dublin Police .....	335
Food Products of Bath .....	18
Food Supplies and Irrigation .....	281
Food Supply in Syria .....	143
Food Supply of the Andaman Islanders .....	458
Foreign Fruits .....	205, 301
Fowls .....	64
Fresh Water Fish, New .....	347
Fruit Preservation .....	90
Fruit Trade in the United States .....	288
Game .....	335
Gastronomic Festivals .....	105
„ Novel .....	330
Good Mens' Tables .....	99
Hassall, Dr., on the Adulteration Act .....	238
Herb-farming near London.....	291
Hints on the Packing and Carriage of Fruit .....	88
Hints Respecting Diet .....	336
Horrors of Opium .....	2, 43, 83, 146
Household Economy .....	349
How Fish is Wasted.....	389
How the English Workmen Live at Vienna .....	309
How to Eat and Digest .....	296
Ice .....	256
Importation of Beef .....	173
Indian Tea.....	173
Infant Mortality.....	50
Infant Mortality and Infants' Diet.....	289
Influence of Food upon our Rural Population.....	441
International Exhibition, 1873 .....	1, 41, 81, 121, 161, 201, 241, 436
Irish Fisheries .....	213

# INDEX.

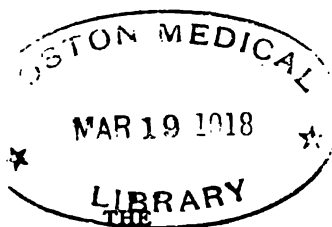
v.

	PAGE
Italian Artisans at Table .....	166
Italian Produce .....	447
Macaroni .....	7
Magog's .....	463
Manna Croup, Millet, and Maize .....	470
Markets of the Month.... 30, 71, 112, 151, 198, 233, 272, 310, 355, 391, 430,	472
Metropolis Water Supply .....	225
Mineral Waters of Bath .....	340
Misuse of Meat .....	220
Notes of the Month .... 32, 73, 114, 153, 188, 235, 274, 314, 357, 393, 432, 474	
Oatmeal .....	421
On Dinner Giving .....	61
On the Cultivation of Seakale.....	414
On the Utilisation of Peat .....	174
One Meal a Day.....	425
Our Meat Supply .....	15, 91
Platter <i>versus</i> Tankard.....	209
Practical Food Analysis .....	21, 107
Price of Meat .....	367, 401
Royal Horticultural Society at Bath.....	270
Salmon Fisheries of England and Wales .....	96
Sausage Meat.....	57
Some Foreign Fruits .....	205, 301
Somersetshire Peat Coal Co. (Limited), Visit to the Works of the .....	261
Staples of Ceylon .....	24, 405
Strange Dishes .....	384
Sugar and its Adulterations.....	171
Thoughts on Toothpicks .....	371
Tomato, the .....	48
Trades and Longevity .....	376
Truffles .....	265
Useful Properties of the Sunflower .....	374
Vegetables better than nothing .....	245
Wine and Brandy .....	354





*Johnson  
= of Pitt*



## FOOD JOURNAL.

---

### INTERNATIONAL EXHIBITION, 1873.

---

THE preliminary arrangements respecting the food classes of the coming Exhibition seem to be progressing in a satisfactory manner. The committees are composed generally of men of experience, who are not likely to be led away by mere fanciful notions. The Cookery Committee has issued a memorandum, inviting suggestions respecting the preparation of the simplest articles of food from a "boiled potato" to "puff paste," and the same Committee has also considered certain proposals with reference to a practical and instructive illustration of popular cooking, as adapted to the requirements of the middle and lower classes, and has inspected sites in the Exhibition Buildings which appeared suitable for the purpose. Finally, it passed resolutions containing recommendations to Her Majesty's Commissioners as to the best executive arrangements for the Class.

We are pleased to note that the views of the Committee seem to coincide with those which were expressed in our columns last month, and that there is fair promise of useful results from the culinary exhibition.

The time for making applications for space has not expired while we write, but we understand that the number already received is large, and is increasing every day. There are too many engaged and interested in the food trades for it to be otherwise.

If the programme of the class of drinking vessels should be fulfilled, there will be a very curious and interesting collection of vessels from the pre-historic, and modern barbaric, gourd, shell, bone, and skull cups, to the most delicate porcelain and glass of Oriental and European manufacture.

## HORRORS OF OPIUM.

### PART I.

---

ALTHOUGH it is highly probable that opium was first used as a sedative to pain, and afterwards indulged in as a luxury, its consumption, to the extent of becoming a national vice, does not appear to have been specially marked until the spread of Islamism. But after the acceptance of the Mahomedan superstition by the millions of the East, wine and fermented liquors being prohibited to the followers of the false Prophet, opium gradually occupied the void, and was speedily followed by hashish, or bang, made from Indian hemp. From the Arabs a taste for the drug spread to the Eastern Archipelago, although, it is believed, that smoking it was first practised by the Chinese. Whatever censure, therefore, we may feel inclined to visit on the latter people on this account, it must not be forgotten that opium was introduced into both India and China by the Mahomedans, who were also the discoverers of the art of distillation and manufacturing ardent spirits. Whilst we blame the Chinese for the perpetuation of a loathsome and deadly vice, we must brand with infamy the Arabian enthusiasts for inoculating the human family with a craving which has led to two of the greatest curses at present blighting our race.

It being the intention of this essay to exhibit the horrors of opium, I shall confine myself chiefly to an inquiry into the evils attendant on its abuse, and to the question of the extent to which we, as a nation, are implicated in the foul traffic.

Not only are the Chinese the principal consumers of Indian opium, but in six of their provinces they have long cultivated and prepared the source from which the drug is obtained; although native grown opium, until recently, has only been in request among the poorer classes in the interior, who could not afford to purchase foreign at the exorbitant price it acquires from transit duties and mandarin imposts. The traveller Huc, writing on this subject, says the preference shown by the wealthier Chinese for the foreign narcotic is "a caprice only to be accounted for from their vanity, as they think it beneath them to smoke opium of native production." But later inquiries go to prove that the actual reason lay in the fact that Indian opium was esteemed on account of its more energetic effect,

and the only barrier to its universal use has been its cost. Thus, although the hideous spectacles, of daily occurrence in the opium dens at Canton, Hong-Kong, Shanghai, Hankow, Foochow, and other parts of the empire directly accessible to foreign imports, may not be frequently witnessed in the interior, yet the indulgence there in the milder drug keeps the male population who can afford it in a condition of perpetual dreamy inertia. Under its baneful influence, in the face of real peril, the debauchee is usually hopelessly stupid or rash, yet he shrinks appalled when no danger threatens. His courage, when it temporarily exists, is that of a blindfold man traversing the edge of a chasm, from the brink of which he would recoil aghast if his eyes were free. In no other manner can the fact be accounted for why the Taepings, who, for a quarter of a century had abjured the use of opium, succeeded so long in defying the whole military strength of an empire, the officers and soldiers of which clung to the degrading indulgence.

Unlike the drunkard—who, even in the worst cases, has his lucid intervals, is terrified by sickness and remorse into periods of total abstinence, and who sometimes finds that with the return of health his morbid craving for stimulants either ceases or becomes so weakened as to be under control—the *habitué* of the opium pipe, narcotic pill, or laudanum bottle becomes so wedded to their lurid fascination, and so utterly powerless to struggle against the agonies and wretchedness induced by attempts at reformation that no mere earthly power can save him. “Nothing,” says Dr. Dudgeon of the Pekin Hospital, “can restrain men from following the vice except the grace of God ; all human expedients seem in vain.” The same eminent medical authority, in his annual report for 1867, writes :—

“I have nothing new to add to that which has already been written on opium smoking. It still continues to be the barrier to all progress and happiness, spiritual as well as temporal. It is the greatest of all our difficulties to be overcome in the resurrection and renovation of China. If this stumbling-block were removed out of the way, it is impossible to predict what a glorious future lies before the country, to the missionary, the philanthropist, and the merchant ; but until this is done nothing is done to purpose. This is what all Christians and philanthropists have to strive against. In the long run it will prove detrimental to commerce and industry, and will prove a short-sighted, unwise, and suicidal policy.”

The Chinese habitual abuser of opium may be immediately recognised by his utterly forlorn and abandoned appearance. His emaciated and shrivelled body sustains a withered, distorted, yellow, corpse-like countenance, in the deeply sunken caverns of which furtively lurk, except when glittering from a fresh dose of the poison, a pair of glazed unspeculative eyes. Scarcely eating any food, as

his digestive organs are altogether disorganised, he crawls through a dreary, useless existence, a mass of excruciating anguish during his few waking hours: a loathsome bundle of sodden parchment during the rest. By rapid stages his horrible craving increases, and in order to produce the desired effect larger doses are required, mingled occasionally with an active corrosive poison.\* At once a mental and physical wreck, he at length swallows his final pill or smokes his last pipe, and is borne into some dismal cellar to perish. Here all that remains of the wretched debauchee, after a few days, are his blanched and riven bones, as cats† are irresistably allured to prey on the dead who have been poisoned by this terrible drug.

In the first volume of the *Food Journal* (p. 461) the reader was introduced into Sylvester Salvador's opium den in Bombay; let him now take a brief glance at the interior of Ya-peen-Kwan's at Shanghai. The labours of the day are over, crowds of people are hurrying along the streets, and some of them turn in here in order to satisfy undisturbed their depraved appetites. It is nine o'clock, and the infatuated smokers are in various stages of excitement or depression; some are entering distracted with indescribable headache, or torn with racking nausea, hastening for relief and to minister to the ghastly craving they have been compelled to subdue during the labours of the day; others are temporarily gay under the stimulating influence of a pipe or two, while languid wretches—too intoxicated to regard passing events, and whose idiotic smiles show they are quickly subsiding into their desired drunken oblivion—sprawl upon the couches. In a dark corner crouches Ya-peen-Kwan, a bleary-eyed scoundrel, eagerly watching for fresh victims, like a bloated spider hungry for giddy flies. He is an opium smoker himself, though as yet his interest has compelled the limitation of his indulgence. But in another year or two, when his son shall have reached a trustworthy age and been put into the management of the baleful occupation, the parent will abandon all restraint, and a few years more will see the once strong ruffian a drivelling, debilitated skeleton.

In the rear of the opium shop is a wretched shed abutting on, or projecting over, one of the noisome canals which abound here. Into this morgue the senseless smokers are carried to sleep off the poison, if, happily, the possession of valuables do not tempt the opium dealer or his satellites to the commission of an irretrievable crime.

---

\* Bichloride of mercury.

† "Chambers's Cyclopædia, 1788," and Reis's for 1819, article Opium.



After such a glimpse, the denunciation of the drug and its votaries by Kinshan, one of the most celebrated among modern Chinese literati, cannot appear overstrained. He says :—

“Opium is a poisonous drug brought from foreign countries. At first the smokers of it merely strive to follow the fashion of the day, but in the sequel the poison takes effect and the habit becomes fixed. The sleeping smokers are like corpses—lean and haggard as demons; such are the injuries it does to life; it throws whole families into ruin, dissipates every kind of property, and destroys man himself. There cannot be a greater evil than this. It exhausts the animal spirits; hence, the youth who smoke will hasten to the termination of their years. It wastes the flesh and blood; the faces of the weak who smoke become black and cadaverous. It renders the person ill-favoured; it promotes obscenity; it discovers secrets; it violates laws; it attacks the vitals; and it destroys life. When the smoker has pawned everything in his possession, he will *pawn his wife and sell his daughters.*”

Revolting as the foregoing must be to every well-constituted mind, the subject is one which cannot be ignored, and must no longer be dismissed as an inevitable evil which we pretend to regret whilst we plead our inability to cure. A foul, soul-destroying drug is doing deadly execution in the world, and, with shame be it written, British sailors and British soldiers have been employed to force the iniquitous traffic on the Chinese in order that British commerce, British merchants, and British India may thrive. That the Indian revenue has materially benefited by the production and sale of opium during the last ten years may be seen from the following table taken from the Report of the East India Finance Committee of the House of Commons, recently published (p. 748):—

REVENUE.		Brought up .. £35,284,908	
For 1860-61 .. .. .	£6,676,759	For 1865-66 .. .. .	8,518,264
1861-62 .. .. .	6,359,269	1866-67 .. .. .	6,803,413
1862-63 .. .. .	8,055,476	1867-68 .. .. .	8,923,568
1863-64 .. .. .	6,831,999	1868-69 .. .. .	8,453,365
1864-65 .. .. .	7,361,405	1869-70 .. .. .	7,953,098
Carried up .. .. .	£35,284,908	Total .. .. .	£75,936,616

Thus the Government of India has pocketed, during a period of ten years, nearly seventy-six millions of pounds sterling from the sale of a poison at once the most alluring and destructive, as an indulgence, with which fallen humanity has been cursed.

But the British public at home is far from guiltless in the matter, as a section of it habitually drinks laudanum, and another portion, well educated and licensed to retail medicine for the cure of disease, deliberately panders to the morbid appetite. In 1867, Dr. Hawkins remarked in a lecture delivered at King's Lynn, “that Lincolnshire and Norfolk consume more than half of the opium imported into this country.” Referring to the usual sources of commercial

statistics, I find that in 1867 there were exported from the United Kingdom 148,519 lbs. of opium, valued at 121,291*l.*, so that if these two counties used more than half the total import, the quantity absorbed there must indeed have been enormous when so much remained for exportation. The same authority also mentioned that it was not unusual to observe persons frequenting druggists' shops, calling for *an ounce and a half* of laudanum, drinking it off at the counter, and returning for more in the course of the day. Of a similar tendency, although modified in degree, was the information given by Dr. Buck regarding the narcotic consuming propensities of Leicester during the same year, which need not be quoted here. The latter town, which claims to have been founded 884 B.C., made itself infamously conspicuous in the year 1616 by the execution of nine witches for the practice of the "black art," who, probably, were both innocent and intelligent old women. It is to be hoped that since 1857 its inhabitants have contrived to obliterate that old stigma by crushing the horrible vices of opium-eating or laudanum-drinking, which at that period seem to have bewitched a portion of the population.

WM. COCHRAN.

[TO BE CONTINUED.]

---

---

CONDEMNED FOOD.—This year, in the markets and slaughterhouses of the city of London alone, the inspectors have condemned 195,522 lb. of meat as being unfit for human food: 189,390 lb. were condemned in the New Meat Market, 5,084 lb. at Aldgate, and 1,039 lb. at Leadenhall. 74,463 lb. of it was diseased meat, 102,050 lb. was putrid meat, 19,009 lb. was the flesh of animals that had died from accidents and other causes which rendered it unwholesome. The returns embraced 913 sheep and lambs, 108 calves, 380 pigs, 736 quarters of beef, 2,760 joints of meat, besides 3,149 plucks, 12 baskets of kidneys and melts, 1,572 kidneys, 51 hams, 190 sides and pieces of bacon, 4 barrels of pork, 17 pigs' chaps, 35 tongues, 35 ox-tails, 2 goats, 12 fawns, 100 quarters and pieces of venison, 142 hares, 5 boxes and cases of rabbits, 644 rabbits, 2,146 head of game and poultry, 1 box of plovers' eggs, 2 hampers of eggs, 200 eggs, 29 cheeses, 1 cask of turtle, 1 barrel and 1 pad of fish, 1 basket of plaice, 1 barrel of cods' roes, 27 mats of dates, 6 boxes of grapes, 2 boxes of pears, 2,500 oranges, and 106 cocoanuts. At Billingsgate and Columbia Markets were seized about 287 tons of fish, consisting of about 232,945 herrings, 171,826 plaice, 167,749 haddocks, 142,270 whittings, 129,050 smelts, 66,660 dabs, 2,900 garnets, 8,586 thornbacks, 3,457 codfish, 9,105 soles, 19,300 of various descriptions of fish, 7,907 lobsters and crabs, 205 bushels of sprats, 338 bushels of wheelks, 216 bushels of mussels, 60 bushels of cockles, 9,603 gallons of shrimps, 21 bushels of oysters, 235 bushels of periwinkles, and 8,879 lb. of salmon and eels.

## MACARONI.

To discuss the importance of Macaroni as an article of food, and to write its history within the space of a couple of pages is no easy matter. The origin of this production is involved in obscurity, whilst the learned differ as to the orthography and etymology of its name. In the provincial dialect of a portion of Southern Italy, two words pronounced *mac* and *ron*, signifying press and round, are in common use; and so, if we may believe some fanciful interpreters, the term Macaroni was given to the paste as significant of the pressure required to produce it and the form it is made to assume. Some think, says Skinner, that the terms *Macaroni* and *Macaroon* are derived from the Greek, and signify "the feast of the happy." He expresses his surprise that the Greeks should derive any pleasure from eating, what he calls, "such paltry food." Wedgewood, in his "English Etymology," tells us that Macaroni comes from *Maccare*, which signifies to bruise or crush. According to another authority, the term Macaroni or *Macheroni* signifies "a mixture," and was applied to this paste because it was originally a mixture of meal, cheese, and other ingredients; and thus, in accordance with this theory, the term *Macaroni* or *Macaronean* when applied to poetry was descriptive of certain comic or facetious writings, poems made up of a jumble of words of different languages, of Latin words modernised, or of native words with Latin terminations. The origin of Macaroni, says an Italian writer, may be traced in the *Couscousson* of the Arabs. Travellers in the East tell us that this *Couscousson* or *Kous-kous* was made generally of wheaten flour, eggs, and other ingredients, and formed a favourite dish with the natives. It is, therefore, highly probable that when the Moors invaded their country, the Italians would observe closely the habits and customs of their conquerors, and that instead of the *Kous-kous*, they soon learnt to manufacture their own paste under the name of Macaroni. At what period it became popular it is difficult precisely to determine. No doubt, however, after its first introduction, its cheapness and nourishing properties would soon attract attention, and lead to its general use amongst a poor and needy people. What nectar had long been to them as drink, Macaroni would soon be to them as food, "a feast of the happy."

To such an extent at the present time does this paste supply the place of animal food to the working population of southern Italy, that with the exception of Christmas, Easter, and Carnival days, few of them taste either beef or mutton from one year's end to the other.

The wheat from which Macaroni was originally manufactured came from Russia, but it is now cultivated abundantly in certain districts in Italy, where it thrives much better than in the land from whence it was first imported. Although small and dark in colour, the grain is very hard and rich in gluten, and therefore peculiarly suitable. The best Macaroni, remarks a competent judge, is made entirely of this *Grano duro*. Using this wheat, the Neapolitans, proud of the only manufacture in which they excel, treat with great contempt the similar productions of all the rest of Italy. In the preparation of the semolina great care is necessary, the desideratum being to remove the husk with a portion of the starch with the least possible loss of gluten. This, indeed, is so far effected that the percentage of nitrogenous, or flesh forming material, in good semolina is much greater than in ordinary bakers' flour. Taking then weight for weight, as recently stated in the *Lancet*, Macaroni contains more nourishment than good household bread. In kneading the dough, there is no doubt much objectionable manipulation practised in Naples, as at home in the manufacture of bakers' bread, still it would be a matter for regret if the consumption of Macaroni at this period had been lessened by the publication of such information; and it may afford satisfaction to learn that we are no longer dependent on foreign supplies for this important bread stuff, as may be satisfactorily demonstrated by a visit to the factory of Messrs. Criscuolo, Kay and Co., at Camden Town, where, by the aid of steam machinery and a number of Neapolitan workmen, Macaroni and Vermicelli of the best quality are largely manufactured. In this establishment nothing but Italian semolina is employed, and the greatest care and cleanliness are observed throughout the various processes.

The nutritive properties of this Anglo-Italian Macaroni are beyond doubt, and these, combined with its purity and freedom from acidity, render it even more agreeable as an article of diet than that which is imported from the shores of the Mediterranean.

C. T.

---

ERRATUM.—In our last number, page 466, paragraph, "Chicory and Cocoa," for "heated" read "treated."

## FOOD AND FUEL.

---

FOOD AND FUEL have mutual relations. The inhabitant of the northern climate who eats meat must cook it, but the inhabitant of the tropics who feeds on fruits needs not cook them and does not want fuel. As a general principle, therefore, the people of cold climates use more fuel than those of hot countries, although the poor Esquimaux can consume raw or frozen seal's flesh.

There are, however, great variations in the employment of fuel. The Englishman has to cook his dinner, but the Spaniards, Italians, and Anatolians need not, as they can make their meal of bread, onions and melons, while the Hindoo who cooks rice must boil it, as the Irishman does his kettle of potatoes. Here, again, comes a diversity. The bread of the South European is cooked, after all; but then, instead of being cooked on the hearth of the individual house, it is sent to a public oven or got from a bakery, where it is cooked in common. Thus the Spaniard or the Greek can get on without a fire for cooking and without a kitchen. Even in the house of a wealthy Greek the kitchen not unusually is on a very small scale—as for that matter is the dining-room. A small pot of charcoal carried into the back yard or street will perform the extraordinary cooking of a common house.

The demand for fuel, even where the food is vegetable, may create a considerable failure in the resources of the country. Thus in many parts of India, there being no wood, the manure of the beasts is made into fuel and burnt, to the very great injury of husbandry, to cook the rice, and so likewise in the very poor country of Armenia. The great economical reform in those regions is, by means of railways and tramways, to extend the area of supply of wood fuel and charcoal and to open up the coal mines, taking precautions that the parties to whom the mines may be granted shall not surcharge on the coal, nor the railway companies on the transport. The object is to raise the coal at the cheapest rate and carrying it to the longest possible distance, and thereby over the widest area. The railways will get their return, for manure being applied to the land there will be heavier crops and more produce for the railways to carry. It is calculated that if the cotton could be manured on the wheat the crops would be doubled.



Some crops, as paddy crops, depend chiefly on moisture, but others greatly on manure. Thus we have to enable the ryot and coolie to cook his meal without using up the manure, which is a necessary ingredient of culture.

The seemingly curious but very truthful result is that the Hindoo burns food, and that a hundred millions of people might be supplied with more food if they could obtain mineral fuel instead of burning manure, which is the staple of food. The reproach of destruction of manure does not apply solely to Hindoos, for in this island we yearly annihilate in pure waste by our new sewer system the means of growing food for five millions of people. The balance of operations or the balance of forces is one means of considering the economy of the universe, and if we waste fuel or waste manure it re-acts on the provision of human food.

If steam-ploughing be carried out to a great extent it will liberate so many horses and oxen, and make part of their feed available for men; but then the manure of the beasts will be lost to husbandry, as, under the present system, the men would be in town populations, and their manure would enter the sewers. As horses and bullocks do not as yet use waterclosets, though in the disposition to abuse science they may yet be provided with such conveniences of civilisation, their removal from the plough-tail may be attended with the abduction of corn-growing material—another exemplification of the balance of industrial power, which, under an enlightened administration, would be watched.

If some other fuel be substituted for manure it may still disturb the equilibrium of consumption. Thus charcoal or wood may still trench on the meat and bread domain. Wherever a forest is kept up needlessly for fuel or ironmaking, it is at the expense of the displacement of so much cereal area; but then if forests be kept down too much, this, again, is at the expense of rain and river water, another element of production. If in France or Germany, for instance, a forest was kept up to too great an extent, the injudicious and unskilful clearing of forests is now being attended with a disturbance of the water supply, affecting even navigation.

Taking this question of vegetable fuel consumption into account, a very curious comparison could be instituted between the consumption of Frenchmen and Englishmen, Parisians and Londoners. A just comparison of the consumption of the soil will not consist solely of meat, greens, and bread, but will include the wood and charcoal burnt, and the number of loads of wood will turn the scale very much on the French side. Thus a Frenchman or Frenchmen will be shown to use up very much of the produce of the soil with-

out getting the same net amount in food. Working this out on the other side, we shall arrive at the result that the millions of tons of coal consumed in London and our great towns, representing a diminished drain on the produce of the earth, enables our agriculturists to furnish a greater proportion of nourishment from their soil than is obtained from the soil of France.

As transport is an essential detail of industry, the use of railways, instead of beasts of burden, contributes to a like result. In France and other countries more backward a greater proportion of animal power is employed in transport. Thus, in taking the individual consumption of a Frenchman, we have to regard the vegetable fuel he uses, and the animal power devoted to transport. These results have been obtained in England by the general intelligence of the community, and not by special intelligence of administrations, but they are well worthy of observation.

By taking as the unit of consumption, not that usually accepted by statisticians, but the whole amount of produce of the soil effectively destroyed, we get some curious results. The Hindoo, the Armenian, and the Tartar have to be debited with manure, the Turcoman and other cattle-feeding tribes with the weight of burnt forest, the Spaniard with charcoal and forest fuel and with the waste of the devastations of the great herd of Merino sheep, the Yuruk of Turkey, with the similar destruction in Bozook of arable land by his cattle, the Frenchman and southern German with his wood fires, and all more or less with the keep of camels, lamas, horses, mules, and buffaloes, dragging along small carts at one mile an hour, or carrying light weights on their backs.

The amount of natural produce wasted by low races and savages is something enormous, whilst the effective economy contributing to the increase of settled populations is also remarkable. A savage will kill birds and beasts he cannot carry away, but beyond this he will kindle the prairie and the forest to nurture tender grass that may entice the buffalo or kangaroo.

The economy of the settled races is, however, sometimes supplied by nature, if adopted by man. Thus the Nile and the Ganges, offering ready and cheap navigation, have in all ages afforded cheap transport to the great populations on their banks. A river, whether the Euphrates or a large river of China, is a creator of wealth, because a boat is equivalent to many buffaloes, and requires less man-power for its management. Thus the surplus produce of the country can be concentrated for the maintenance of metropolitan cities, and these cities can send out appliances and tools for the better tillage of the neighbouring

districts. Trade, the interchange of products, becomes a stimulant to agriculture and to manufactures, and instead of petty villages, each supplying, like a dwarf, its own narrow wants, a whole country profits by the aggregation and division of labour. Intellectual development to a great degree attends material development, and therefore in this direction the population have a greater participation in the benefits of the particular form of civilisation developed.

A navigable river in this respect represents an aggregate of roads, on which, otherwise, myriads of beasts of burthen to a certain extent use up wastefully the produce of the land. This will be seen more fully if we compare a country at the foot of the Cordilleras or any mountain chain with one in a river plain. In the former troops of animals can alone maintain communication, and practically they cannot convey grain any great distance, as they themselves would eat it up before it could reach the destined market. Applying these considerations to the history of our own country, where its influence has not yet been traced, the great era of our advancement was by the establishment of canals in the last century, which liberated numbers of packhorses and beasts of burthen, enabled heavy machinery to be moved about, and more particularly brought into effect a more general substitution of coal for wood fuel. All this gave us a real economy of food distribution, and enabled us to build up those large cities of Manchester, Birmingham, and Leeds, and their ports of shipment. This was followed by the railways, which not only offered quicker transport, but also transport accomplished by mineral material, and not by the application of the produce of the soil. If the figures could be worked out, it would be found that, although the number of animals employed in husbandry and in carrying is still great, a large quantity of food is created by canals and railways.

This reference to transport introduces the consideration of the extended distribution of fish in England, France, and Germany. In Holland this supply of animal food has been large for three centuries, but it is only now that fresh fish is becoming an article of consumption in Europe. Dried and salted fish, admitting of long carriage, has always been largely employed, even during the Middle Ages; but fresh fish is an economical fact of the present century, which will add greatly to the resources of the growing populations, and become a means of enabling throughout the world great centres of commerce and industry to be maintained. The railways now in progress will distribute this article of animal food among 400,000,000 of people, by whom hitherto the produce

of the seas could not be obtained. Under this head alone the maintenance of some 50,000,000 of people is now being silently made provision for by operations certainly not directed to that end.

Those relations between food and fuel which we have here dwelt upon, when worked out numerically, point to figures no less considerable, for the direct or indirect consequences of a redistribution of fuel may yield subsistence to another 50,000,000, and to still greater numbers as the railway systems of Europe and India become united and combined into one, which a very few years will effect, as the railway system of North America, of Canada, and the United States is consolidated, and at that more distant day, but not beyond our ken, when South America shall have its railway reticulations, and the germs in Africa shall have ramified and interlaced.

Looking also from new progress to future extensions, we can see how in our markets fresh fruit and fresh vegetables are becoming more abundant, because we have better transport by land and sea. On sea, again, we have the consequences of the mineral competing with the organic. As the steamboat drives out the sailing ship, so do the crews fed with meat and vegetables become less numerous, and the coal-supplied boiler displaces the seaman. That while in this country we use up every portion of animal and vegetable, we obtain animal and vegetable from land and sea abroad, exchanging for it uneatable mineral substances.

So far from there being any depredation by local populations of their own food, populations hitherto destitute of exchangeable commodities will be able to exchange rapidly produced and perishable vegetables and fruits, obtaining other substances in return not even in the nature of food.

One of the stronger sides to this question is that relating to the use of bricks. When timber is used for building among a thin population it does not compete with food land, but when the population is thick a competition arises. Hence, commonly, forest land is brought under culture. If stone is readily obtainable it may displace wood. In some countries, as in the midland and south of England, mud bricks or cobwalling replaces timber. All over the south of Europe, Southern America, Southern Asia, and a part of Africa, sun-dried or mud bricks are the great building material, and they require no expenditure of fuel; a kiln-burnt brick or tile does, and this is commonly at the expense of wood; but in this country the use of coal substitutes the mineral substance. Here, again, it may be regarded that a perishable material

of timber is compensated by the mineral clay minerally burnt, and that this allows a certain portion of land to be yearly cropped.

Even the substitution of metal casks and hoops, of tin cans, pottery jars, and glass bottles, is of economical importance instead of wooden casks, packages, and hoops. A further remote case is the replacement of hempen cables by those of iron forged with coal. The diminution of charcoal iron and the extension of coal-made iron is a relief to the agriculture of Europe. The great invention of Dudley for employing pit coal in the iron manufacture has greatly increased the food-producing power of our southern counties, and thereby in example of other European countries.

The change which has taken place in the county of Kent is worthy of note. In the Middle Ages the houses were wholly of timber; large forests supplied the iron furnaces, the tanners, charcoal burners, household fuel, tools of husbandry, and many manufactures. Troops of packhorses carried the produce through the passes of the hills and along the muddy roads. In the present day Kent, Surrey, Sussex, and Hampshire, liberated from the demand for house timber and for fuel, still furnish much forest produce, but a still larger supply of food than in the Middle Ages. The packhorse, consuming grain, and affording neither meat nor manure, leaves room for the ox and the cow, and instead of the horses' hides there is a yearly clip of wool.

The object of these observations has been to show that in food productions, as in all branches of industry, there is a balance of causes and effects, and it is by judicious observation of these that public opinion may be enlightened. At the same time it may be repeated that public opinion, slow in its good growth, fitful and intemperate, is but a sorry substitute for that careful administration of the commonwealth, which ministers of agriculture and commerce would provide. In the meanwhile such an organ as the *Food Journal* has thrown upon it the consideration of questions in which, as here shown, the material, and thereby the moral welfare of scores, nay, of hundreds of millions of the human race, are concerned. This is an age in which the general union is promoted, first by the telegraph, secondly by the steamboat, and thirdly by that more costly and less quickly developed instrument of civilisation, the railway. That which the moral philosopher has dreamed of in the intercommunication of ideas, and the political economist in the interchange of commodities, is in our generation to be realised.

HYDE CLARKE.

## OUR MEAT SUPPLY.

### PART III.

---

THE great importance of the subject, and the fact that it is only just beginning to receive that attention which it deserves, though the mischief has been going on for years, justifies me, I think, in saying a few more words upon the Irish cattle trade before passing on to another, and wholly different, branch of my subject; especially as the views which I have expressed in my two former papers have, since they were printed, received marked confirmation in two quarters.

At the Michaelmas Quarter Sessions for the county of Somerset, the clerk of the peace was instructed to apply to the Privy Council for the necessary authority to enable the magistrates to enforce certain restrictions upon the movements of newly-imported cattle. This permission the Lords of the Privy Council refused to grant, owing, no doubt, to a natural unwillingness to interfere with trade. But we do not scruple to interfere with the trades that are injurious to the public health, comfort, or morals. Why should not a trade which is causing a fearful waste of the people's food be subject to wholesome regulations in order to check that waste? Mr. Forster will reply that this is begging the question. I think this is hardly the case. The farmers, who know where they get the cattle from, trace the disease to purchases at Bristol in the South, and at Liverpool in the North. In July last a deputation from the Royal Agricultural Society had an interview with Lord Spencer and Lord Harrington, at the Irish office, to press the very point. Colonel Kingscote, speaking for Gloucestershire, said that "cattle from Bristol had impregnated all the fairs, markets, and country around;" other gentlemen complained of the Irish cattle at Liverpool. Sir George Jenkinson wrote a vigorous letter to the *Times*, telling how diseased cattle have been sent to him from Bristol, and how the dealers only laughed at him for making a fuss about what everybody accepted as a matter of course; the Chambers of Agriculture passed strong resolutions; the chief constables of Berkshire and Oxfordshire wrote to the Bristol Council complaining of the diseased cattle that are sent up; everybody traced the mischief to the *Irish* stock.

Now adopt what theory you please, is it not, to say the least of it, a very remarkable coincidence that, if the disease is not brought *by* the Irish stock, it should invariably be *in* them that the disease first appears? If, with the veterinary department, we attribute the disease to atmospheric influence, why should the skies be so unkind to the *Irish* cattle above all others? It is, therefore, not begging the question to assume, as I have done throughout, that to the Irish cattle the mischief is due, or rather to the condition of their transport. The cattle are healthy in themselves, and form a most valuable storehouse of food for us, but, like many another blessing, we make it half a curse by bad management.

But to return to the Somersetshire Quarter Sessions. The subject was again brought forward at the Epiphany Sessions. Several of the magistrates present joined in the discussion, and every one that spoke supported the view that "the real fountain of the evil was the Bristol market." The chairman, Major Paget, M.P., stated to the court that he had felt so strongly upon the subject that he had written to Mr. Forster, who, in his reply, had urged that the total loss by death amounted to only  $1\frac{1}{4}$  per cent. of the animals attacked—the very point which I noticed in my last paper as probably accounting for the strange apathy of the public in the matter, as if there could not be much loss so long as an animal does not actually die. The returns of the chief inspector, however, put the deterioration, in value, of the cattle and sheep affected in the county of Somerset, at 195,131*l.* Now, as the live stock in Somersetshire in 1871—the details for 1872 are not yet published—amounted to about 180,000 cattle and 640,000 sheep, the total stock of Great Britain for the same year being 5,337,759 cattle and 27,119,569 sheep, it follows that Somersetshire possesses about one-fortieth of the whole stock of the kingdom. If, therefore, other counties had suffered as severely the disease would have involved a money loss of 7,805,240*l.*, a sum very far in excess of the estimate in my former article; but then Somersetshire has paid dearly for its proximity to Bristol.

Some proceedings before the Bristol magistrates in the following week supply us with a very important link in the chain of evidence, and one which, though it had not altogether escaped me, has been so generally overlooked that I have never been able to obtain any satisfactory evidence on the point. Our attention has been concentrated upon the horned cattle, not only as the more valuable animals, but also as being more seriously affected by the disease, and the pig—who, I believe, is the great offender after all—has been comparatively unnoticed.

I alluded in my last to the fact that the severe outbreak of disease in 1839-40 was due then, as now, to the unhealthy condition of the transport. It will, no doubt, have occurred at once to those who know the Bristol trade that the importations at that time consisted chiefly of pigs. That is true: and those who remember, as I well do, the old *Nora Creina* and the *City of Bristol*, the two Waterford boats of those days, which used to bring their 600 pigs each, will recollect that even from the heights of the St. Vincent rocks one needed nothing but one's *nose* to know what they had for a cargo. Now I have at last obtained some fair evidence that these pigs were probably the means of introducing the disease to us in the first instance.

On the 24th December last the *Argo* arrived from Dublin with a cargo of 160 pigs, *one half* of which were found by the inspector to be infected with foot and mouth disease. Ten were landed and seized, and the consignee was summoned, the town clerk stating that his object in the prosecution was not to punish any individual dealer so much as to have the whole subject thoroughly enquired into. The dealer said, fairly enough, that "it was not merely a question of a 20*l.* fine upon him, it was a matter that affected a trade which was worth 800,000*l.* a year to the city, for if the magistrates went on fining individuals for what they could not help no one would continue the trade. These pigs were put on board the vessel at Cork, Dublin, or Waterford, in a perfectly healthy state, and when they got to Bristol they were infected with the disease."

This brings the matter to a point, and I wish to direct particular attention to the fact that we have here the opinion of a man who has been for many years largely engaged in the trade, that the pigs (and, therefore, probably the other cattle also) are put on board the vessels in a sound condition, and yet when they reach Bristol they are diseased. The same dealer stated in his evidence that he had known the disease about 35 years. This carries us back to just the days of the *Nora Creina* in 1838-9, and helps to establish my point that it was the Irish pigs that brought the disease then; for, if not, whence did an Irish importer derive his acquaintance with it?

GEORGE WALTERS.

---

THE high price of coal is producing great distress in Dublin among the lower grades of the working classes. It is now selling at 3*s.* 4*d.* a bag, and the complaint is made that even the bags of coal hawked about at this price are short weight.—*Pall Mall Gazette.*



## FOOD PRODUCTS OF BATH.

---

THE lovely City, which from its well arranged buildings, beautiful situation, and many advantages, claims the ambitious title of "Queen of the West," may be said to have determined that her daughters should be as well dressed, and her inhabitants as well fed as any in the land—so excellent are the articles found for their wear, so good is the supply of food provided for their consumption. Indeed, the appearance of the provision shops at Christmas would have been almost enough to have tempted the appetite of Cornaro. It is not, however, of the food supply of Bath that I wish now to speak, but of those food products that are particularly good, and some of which are sold with the name of the City attached to them. First, I will dwell upon the Bath-chap, for which the place is noted. It is sent to London, and to all parts of England, and has even found its way to such distant places as Quebec and Delhi. I am told by an experienced provision merchant in the place, that the mode of cutting it has a good deal to do with its fame. It is the cutting the head off the pig straight across the neck, and dividing it equally down the middle, that gives it such a good shape as to make it almost equal in appearance to ham. It is also considered to be very well cured in Bath. It is prepared in salt and sugar. The salt is worked into it by means of a machine, so large that it requires two men to lift it. The salt works into the bacon better in winter than in summer. In some cases iced wells are used, but where there are cool cellars ice is not required. A good deal depends upon the smoking, and in this, Bath certainly excels. The process of smoking is rather a curious one. A large fire composed entirely of wood, is lighted in the centre of a room, which has only an aperture at the top; it is important to exclude all other draughts, in order to enable the carbon produced from the wood to collect. The chaps are hung for several days over the fire; the carbon, which floats in an invisible fluid in the air, is then borne upwards and impregnates itself into the bacon. It is this which helps to give it its flavour. The air becomes so full of carbon that it is scarcely safe to breathe it, and it frequently turns the walls of the smoke-house brown. The chaps are sometimes cured and smoked in establishments at Twerton and the

villages near, while some are prepared at shops, or rather in the cellars beneath. I have also known of their being sent from Bradford, and this enables me to say a word, in passing, concerning the well cured bacon of my native county. The feeding and rearing of the pigs in Wilts and Somerset have a good deal to do with the quality of the bacon. The Bath-chap forms a good substitute for ham. I remember an instance where a ham had been purchased to do honour to a guest, who at the end of her stay, remarked in terms more complimentary to the edible, than satisfactory to her hostess, that she had not during her visit, had an opportunity of breakfasting off the far-famed Bath-chap. I also knew a gentleman who thought so much of Bath tripe, that he had a peculiar fancy for making presents of it to his London friends. Another thing well prepared here is the pig's tongue. We must not forget the Bath polony, a little sausage principally made at Dill's in Cheap Street. The polonies have rather a peculiar flavour, being highly spiced and seasoned; they are sold ready cooked and are eaten cold. Some thirty or forty years ago, when butter was sold at 9d. per lb., and there were more farm houses in its suburbs, Bath was celebrated for its cream cheeses; it has still a name for them, but unfortunately we find they are not now procured even from the vicinity of Bath, but from Ware, in Hertfordshire, where they are made in great quantities. One thing peculiar to Bath, and which can be made in no other place, is the Oliver biscuit. Dr. Oliver, a physician of great repute in the days of Beau Nash, invented these biscuits in 1735 for the benefit of his patients. An interesting painting, containing the portrait of this clever and energetic man, is to be seen at the Bath Mineral Water Hospital, to which establishment he was the first physician appointed. He gave the biscuit recipe to his coachman, adding to it a present of five sacks of flour; with this the man set up in business as a baker. The name of Dr. Oliver's favoured coachman is not known, but the biscuits have since obtained such a reputation as warrants the conclusion that he carried on a flourishing business, and that he needed no further help than the five sacks of flour which the kindness of his master had originally provided him with. Since then the mode of making the biscuits has remained a secret, carefully preserved, and handed down with the business. So precious is it considered that the present proprietor paid a considerable sum for the goodwill of the business. The two who preceded him made their fortunes. The shop is in Green Street, and has been carried on for many years under the name of Munday, though it has passed through different hands. The biscuits are

particularly nice, but so simple that they seem as if they were made only with flour, butter, and water; but that there is some secret connected with the making has been proved by the attempts to produce them made by the uninitiated, that have only resulted in unworthy imitations of the real article. The Oliver is peculiarly crisp, and is good either for dessert or with cheese; it is stated to be the only biscuit that is fermented, and on that account is good for invalids suffering from acidity on the stomach, for which yeast is a corrective. It is difficult to find a more welcome present of the kind for a person at a distance, than a tin of genuine Oliver biscuits, and I have been flattered by finding them an acceptable offering in an aristocratic household. The Bath bun, though purchased under that name in other places, is considered as emanating from and peculiar to Bath; it is a rich sweet bun, studded over either with currants or sugar plums, and of a light make. The Wig also belongs to Bath, though it is also made at Cheltenham; it is only a plain long-shaped bun made very light. The Sally-Lunn, so much in vogue at tea parties, is a characteristic product of Bath; it is a rich tea cake of a round shape; it is sent out hot, and prepared for use by being saturated with butter. Pastry of all kinds is particularly good in Bath, but more from the care bestowed upon it, and the choiceness of the materials used, than from any special mode of mixing or making. There is a little sweetmeat called Bath pipe, which tastes of laudanum, and is good for a cough.

Vegetables and fruit of all kinds flourish well in the fertile soil to be found in the neighbourhood, and judging from the fine specimens that are exhibited at the horticultural fêtes in May and September, must be very well cultivated. There is an idea lately started, and mentioned in a letter in the *Bath Express* of November 2nd, 1872, that salmon might eventually be bred in the Avon, it being an ascertained fact that they have been found within the last few years at Keynsham, a village seven miles from Bath. Concerning the climate of Bath, its effects upon different people, its medicinal waters and other sanitary advantages, I could find much to say, but as these subjects do not come directly under the head of food, and would take both time and space to describe properly, I will, with the kind permission of the editor, speak of them another time.

---

EXPERTA.

## PRACTICAL FOOD ANALYSIS.

---

\* \* \* *Under this heading it is proposed to give, from time to time, well considered or improved processes for the analysis of articles of food, drink, and drugs. The column will be under the direction of Dr. Muter, and we invite the co-operation of the food analysts throughout the United Kingdom, to render it a means of securing the necessary interchange of ideas between them, and a consequent uniformity of results. All contributors will have their names duly attached to their contributions, and every opinion expressed will be published without reserve.*

---

### NO. 1.—ALUM IN BREAD.

ALTHOUGH this is a simple matter in the hands of those who have had real experience, yet even the best of us must admit that it is a process which, as now performed, is both very tedious and apt to be not over accurate. I am not aware that a set of directions is published anywhere but in Dr. Hassall's book and in Watt's Dictionary. I dismiss the former method at once, because most chemists will agree that dissolving the ash in nitro-hydrochloric acid, evaporating to dryness, boiling the residue (containing silica and phosphates) with caustic potash, and then filtering, neutralising with acid and adding ammonia, is not a sufficiently secure method for the estimation of the minute quantities of alumina with which we have to deal. The process as given in Watt's Dictionary is very carefully considered, and, with experience, works well. It is as follows:—

“The bread taken for examination should be crumb from the middle of the loaf; it should be carefully trimmed from crust and outside crumb, as those portions may be dirty. It is then to be charred on a platinum tray; the charcoal reduced to powder and incinerated in a muffle; the ash digested in pure strong hydrochloric acid; the filtered solution evaporated to dryness to render silica insoluble; the dried residue drenched with strong hydrochloric acid, then boiled with water, and the liquid filtered. The acid filtrate must next be nearly neutralised with carbonate of sodium, pure alcoholic potash added in excess, which will precipitate earthy phosphates, and retain alumina in solution, and the liquid boiled and filtered; aqueous potash must not be used as it always contains alumina. The alkaline filtrate is then to be slightly supersaturated with hydrochloric acid, and boiled with carbonate of ammonium; this will precipitate all the alumina, which may then be collected, washed, and dissolved in nitric acid, a piece of metallic tin added, and the liquid boiled: the tin is thereby oxidised, and remains as an insoluble powder, consisting of stannic oxide and phosphate, the whole of the phosphoric acid being thus separated from the alumina. The whole is next evaporated to dryness, the residue treated with water and filtered, and the alumina precipitated from the filtrate by carbonate of ammonia.”

An analyst trying this process will find the following difficulties occasionally presenting themselves:—(1). If the temperature at which the bread has been ignited has exceeded a dull red, the alumina becomes so difficultly soluble as to now and then escape the action of the ordinary pure hydrochloric acid sold. (2). If the residue after evaporation be not sufficiently heated for a time, the silica does not become entirely insoluble, and if on the other hand too long and too high heating be indulged in, the alumina once more becomes troublesome to dissolve by simply drenching with strong, and then boiling with dilute, acid. I have known students to fall into both these errors, and to consider a precipitate of silica to be alum, in flour into which I had put none, and sometimes to miss altogether the detection of as much as 10 grains in a four pound loaf. If even carefully conducted, however, the time which the process takes, and the number of filtrations and washings (six), tend to render some alteration desirable. It struck me that if a system could be adopted, by which the phosphoric acid could be separated before precipitation of the alumina, it would be advantageous, and I accordingly turned my attention to a method, proposed some years ago for the separation of phosphoric acid and alumina, and given in "Crookes' Select Method," and I found, that with proper manipulation, it gave excellent results. The process which I now generally employ is as follows:—

One thousand grains taken from the centre of the loaf are first reduced to cinder, and then pounded and ignited in a muffle on a platinum tray, at a dull red heat, until the ash is as nearly white as possible. The ash is then to be boiled with strong hydrochloric acid, to which a few drops of nitric acid are to be added, if it does not seem to dissolve well, and the whole diluted and filtered. The filtered liquid is then evaporated to dryness on the water bath, and heated for about half-an-hour in the air bath to 270° F. The residue is exhausted by drenching with strong, and then boiling with dilute, HCl; and after partial neutralisation with carbonate, an excess of *pure* caustic soda is added, and the liquid boiled and filtered.\* To the filtrate and concentrated washings, solution of chloride of barium is added, with great caution, and in the very slightest possible excess. Carbonate of soda is then added in just sufficient quantity to precipitate the excess of barium, and, lastly, some more caustic soda, and the whole is once more warmed and filtered. The filtrate and washings, which now contain the alumina,

---

\* The soda must be *quite pure*, and should always be checked by precipitating the quantity of solution used with ammonia, and the weight of such precipitate, if any, deducted from the final result.

are then treated with a very slight excess of hydrochloric acid, concentrated and precipitated by adding ammonia in slight excess, and then boiling gently for some time till the odour disappears. The whole is then filtered, and the precipitate having been well washed with boiling water, is dried, ignited strongly, weighed, and multiplied by 246.988, which will give the quantity of alum per 4 lb. loaf.

In a large number of experiments made on this system, the precipitate was quite free from phosphates, except in two or three cases, in which it showed a trace unestimable by the Molybdic method. A set of 1 lb. loaves were prepared by my baker, containing special quantities of alum as nearly as the operation of baking would permit him to calculate, and they gave the following results—their composition being, of course, unknown to my assistant who did the analysis:—

Calculated by baker to contain per 4 lb. loaf.				Found to contain.			
Set marked No. 1	..	..	No alum	..	..	..	None
" " 2	..	..	10 grs.	..	..	..	10.9 to 11.2
" " 3	..	..	40 "	..	..	..	39.9 to 39.1

No. 2 set of loaves were all found to be a trifle too light when weighed, and No. 3 set were a little over the pound, so that I considered the process had worked very close to the truth.

Another important question is the time after baking for which it is safe to keep the bread before analysis, and on this point I have come to the decided opinion that no analyst should consent to give a *quantitative* certificate about any loaf which does not reach him within at most six hours after baking, as the very same loaves, when kept 24 hours, give, by the same process, immensely increased results. The practise I would suggest in this matter is, that on the days fixed for examining bread, the inspectors should be instructed to commence work as soon as the shops open, and have all the samples at the laboratory before 11 a.m. The analyst should first cut the loaves in two, and, in presence of the inspector, weigh one half and seal it up for preservation and subsequent production in court. He should then proceed at once to weigh out two quantities of 1,000 grains each, so as to have a duplicate in case of accidents, and put them aside properly marked till he has time to commence them. Too much care cannot be exercised in the early weighing, not only of the sample to be analysed, but of the portion to be kept for reference, as, in case of dispute, this will prove the amount of weight actually lost by keeping, and so avoid an apparent conflict of results, should the sealed portion be afterwards analysed.

JOHN MUTER, F.C.S., Ph.D.

## THE STAPLES OF CEYLON.

---

### NO. 2.—THE COCOA-NUT TREE.

*Cocos Nucifera of Linnæus ; Polgaha of the Singhalese.*

---

THIS invaluable palm, the gift of a beneficent providence to the inhabitants of tropical climates, is very extensively cultivated in Ceylon, especially on the southern and western coasts. From Colombo to Galle and Matura, a stretch of upwards of 100 miles, one uninterrupted cocoa-nut garden is presented to view. These *gardens* or “topes,” as they are called, belong to natives. There are cocoa-nut plantations held by Europeans in the districts of Negumbo and Chilaw in the western province, in Batticaloa in the eastern, in Jaffua and its neighbourhood in the northern, and also near Galle and Matura in the southern province of Ceylon. Island tradition, handed down by the priests of Bhudoo, says that the discovery of the cocoa-nut tree in Ceylon and of its wonderful general utility, was made by a rajah of the Kandyan provinces, or interior of the island, who became suddenly attacked with a cutaneous disease which covered him from head to foot, and occasioned fearful agony. His people strove, by offering up sacrifices to the Maha Yaka, or Great Demon, as fancied originator of the fell disease, to appease his anger, and thus to cure their beloved king. The latter did not personally aid in such sacrifices, but humbly resigned himself to the fiat of the Supreme Being. After having said his prayers, and made his offerings of flowers to Bhudoo, the king fell, one afternoon, into a deep sleep under the shade of the sacred Bo-tree, this sleep continued for two days, during which he beheld a large extent of water, of a blue colour, which, on examining, he found to be both salt and nauseous. On the shores of this water there appeared to the amazed king thousands of trees of a character he had never before seen, of very formidable height, and, with the exception of large leaves near the top of each tree, apparently destitute of foliage. An old man, the Maha Sudona, the father of Bhudoo, now appeared, and addressed the king as follows: “In that direction,” pointing to the south, “will thy cure be found. One hundred hours’ journey will bring

thee to those trees, the interior of the fruit of which must be thy only food till the Maha Handah, or great moon, has given and refused her light : this do, and, after due offerings of sweet smelling flowers and fruits to Bhudoo, thou wilt recover thy health."

The rajah, on awakening from his protracted sleep, and having communicated to his favourite followers the supernatural message he had received, made the usual propitiatory offerings to Bhudoo, and proceeded towards the south. The one hundred hours' journey having been duly performed without accident, the king beheld before his anxious and delighted eyes a vast expanse of blue sea, and, fringing its far-stretching shore, countless trees, similar to those he had seen in his dream; immensely high trees, with branches only at the top, and what appeared to be fruit nestling in the branches. The only denizens of the country were the mighty elephant and the stealthy bear, and they were most numerous. These animals did not attempt to injure the king or his followers, as they were under the protection of Bhudoo. To obtain the coveted fruit, which was to restore the rajah to health, appeared to be impossible, from both the height, straight, and naked character of the trunk of the trees which bore it. The attendants thought, at last, of applying fire to one of the trees, and, having made a small hole in the middle of a dry stick for the reception of the pointed extremity of another stick, fire was thereby produced by friction, and, by the application of dried leaves, the fire thus became active and fierce, and was applied to the trunk of the tree. While this was being done, the awe-stricken rajah had gone down to the sea and tasted the water, which he found to be salt and disagreeable, as his dream had foretold.

An hour or two after the application of the fire to its trunk, the stately tree fell to the ground with immense force. The fruit was opened, not without difficulty, and as rice was not to be met with in the locality, both king and attendants lived solely on the delicious fleshy portion of the nut, while the pure and sweet water within it satisfied their thirst. Within a short time the rajah's health was quite restored, and, as a mark of gratitude, his highness carved on a lofty rock, which rose mystically from the sea, a gigantic statue of himself, observing that the great height would demonstrate the miraculous recovery from illness of a most distressing and dangerous character he had met with, he being a man small in size, for that by the wonderful kindness of Bhudoo he had risen to a state of unmerited felicity and strength, the testimony of which would thus be handed down to all posterity.

The rajah, on his return to his own dominions, duly promulgated



the virtues of the wonderful palm, which led to the migration of numerous people to the south of the island, and thereby to its colonisation. The image, carved on the rock, is to be seen at the fishing hamlet of Bellegam, a few miles from Galle, in the southern province of Ceylon.

There is great difficulty in fixing upon the birthplace of the cocoa-nut tree. It is said to be indigenous to Asia and Africa, and is met with in the tropical portions of South America. There are four varieties of the cocoa-nut met with in Ceylon. The first, called the king's cocoa-nut, which is generally found in the gardens of the Bhudist priests, and native lay Headmen, and is presented to the European visitor as a complimentary offering, the water within the nut being very grateful to the taste; the second kind is different in shape to the former, and the rind is reddish, and edible, after the epidermis has been removed; the third is the cocoa-nut of commerce, and is most largely consumed in the island and exported to other countries; the fourth variety is the dwarf or Maldivian cocoa-nut, more curious than useful.

The double cocoa-nut is only found in the Seychelles group of islands, and brought occasionally to Ceylon; numerous medical virtues are attributed by the natives to these latter nuts. The Ceylonese cocoa-nut of commerce prefers a sandy soil to any other, and delights in proximity to the sea, for, as Bertolacci says, "it flourishes so very near the sea that its roots are, in many places, washed by its waters, without injury to the tree, until it is actually undermined." When the cocoa-nut topes are formed in districts remote from the sea, a little salt is generally thrown into each hole prior to the plant being deposited. The Ceylon cocoa-nut tree (the cocoa-nut tree of commerce is henceforth the only one alluded to) grows to a great height, *i.e.*, from 65 to 95 feet. Its roots are flexible; the majority of them creep along the surface of the ground, while a few strike deeper. Its branchless stem is surrounded by annular indentations. The stem is nearly the same size from the root to the top, from which a crest of large pinnated leaves radiate, about a yard in breadth, and four yards in length. The leaf is separated by a strong woody fibre, from which smaller ones are produced, on either side. The nuts grow in clusters within the leafy crest, and each tree produces from 15 to 20 good nuts; in favourable situations the tree will yield three or four crops in each year. In congenial soil the cocoa-nut will blossom in from four to five years, but where the soil is hard, they do not blossom under six or seven years. About twelve months after the first blossoming the tree commences to bear fruit, and for 50 years will continue to

bear abundantly; after that period the yield gradually diminishes until it becomes fruitless, when it is cut down, yielding, at its decease, the heart of the crest or cabbage, which is composed of the "leaves to be" of the next year. Made into a pickle or boiled as a vegetable, in either case, it is delicious. When the nuts, which have been retained for forming a nursery, seem, by the brownish appearance of the husk, to be duly ripe, they are removed from the trees, and in about ten days they are placed in rows, and partially covered with soil. In about fourteen weeks' time the nut will have germinated, in a further period of five months the young plants will have obtained a height of 18 inches, and three or four branches will have made their appearance. The natives generally plant the cocoa-nuts in the wet season in holes in direct lines, about 24 feet apart, and 2 feet deep, and the same diameter at top. The young plants require much watering until about the seventh or eighth year. They have also many enemies to contend against; first, the wild elephant, in localities that are sparsely inhabited by man; and secondly cattle, which involves the absolute necessity of fencing in the young trees for four or five years. The porcupine is also very destructive in the infancy of the plant, but its most deadly and persevering enemy is a beetle which gains access to the cabbage or heart, that contains the vital principle of the tree, by a process of undermining. After the eighth year the tree requires no further care in the shape of fencing or irrigation, and yields, as above shown, abundantly to its fortunate native possessor, who is frequently found to indulge in the luxury, dear to an Asiatic, of a law suit to recover or defend, as the case may be, a tenth or twentieth share of *one* cocoa-nut tree—a kind of litigation the writer of this paper has, on more than one occasion, in a judicial capacity, been called upon to adjudicate.

In a brochure, which was published in London about the period of the International Exhibition of 1862, it was stated, that "the laborious duty of collecting these nuts is the province of a certain caste in Ceylon; but in many parts the inhabitants have trained monkeys to gather them, which they do with great dexterity, selecting those only that are ripe, and gathering no more than the quantity which is required," the fact being, however, that, although there is a distinct caste, called the toddy-drawer caste, for drawing the toddy from the tree, the picking of cocoa-nuts can be, and is, pursued by any of the labouring population of the island, and the said picking or collecting is not a very laborious employment. In regard to the trained monkeys plucking the nuts, the Singhalese Jacko is too knowing to allow himself to become

an expert of this type. Dr. Heyne mentions, in "Letters on Sumatra," that monkeys had been trained, in Sumatra, by the Malays, to fetch cocoa-nuts from the trees as they were required. I suspect the worthy doctor must have been deceived in this particular. In the excellent account of Ceylon, by the late Sir J. E. Tennent, he mentions that he was told by a native the one hundred uses for which its products were made available; they were as follow:—The nut and its juices for food, for drinking, for oil, curries, cakes, and cosmetics; the shell for cups, lamps, spoons, bottles, and tooth powder; the fibre which surrounds it for beds, brushes, nets, ropes, cordage, and cables; the fruit sap for spirits, sugar, and vinegar; the blossoms for preserves, and pickles; the web, sustaining the foot-stalks, serves for strainers and flambeaux; the leaves furnish twenty-seven appliances for thatch, matting, fodder, baskets, and minor utensils; and, lastly, the trunk yields fourteen appliances for building, furniture, firewood, ships, fences, and farming implements.

The natives of Ceylon, in their intense love for the wonderful palm, state their conviction that it is so much the friend of man that it grows far less abundantly if planted at a distance from human habitations. The real cause, doubtless, is that the cocoa-nut, in common with other vegetable productions, flourishes better in the immediate vicinity of the houses of the natives, owing to the soil being rendered far richer by artificial means, and, especially in the case of the cocoa-nut tree, the soil is more moist; on the coast of the island native houses are close to the sea, embosomed in the cocoa-nut topes.

No tax is paid in Ceylon upon the cocoa-nut tree. In 1793 an *émeute* of a serious character nearly took place from an attempt to impose such a tax.

In regard to cocoa-nut oil, which it will be seen by the returns hereinafter detailed, forms a large item of the exports from Ceylon,\* the history of the rise and progress of this article illustrates the beneficial results of the action of government in a tropical and recent agricultural colony (for prior to 1830 Ceylon could only be regarded as a military post of importance) up to a certain point in producing new articles of export. The local government of the day imported a steam engine from England, manufactured the oil in Colombo, and consigned it to its own agent in London, where it was sold and carried to the credit of the government.

---

\* From a paper by E. Rawdon Power, read before the Royal Asiatic Society of Great Britain and Ireland, on the Agricultural and Commercial Statistics of Ceylon.

In 1831 Governor Sir R. Wilmot Horton directed that the account sales of the oil should be duly published in the *Government Gazette*, with a note, that the engine, etc., were for sale. A highly respectable firm purchased the engine, etc., and from that period commenced the export, by private individuals, of the cocoa-nut oil, which has reached so high a figure at the present time.

From Ferguson's Ceylon Directory for the years 1871-72, a most valuable compendium of Ceylon statistics, issued from time to time, and which has just reached England, it would appear that there are in the

Eastern Province .. .. .	23 estates ..	acreage	5,073
Western Province .. .. .	68 " ..	"	16,808
North-Western Province .. ..	11 " ..	"	3,285
Northern Province .. .. .	33 " ..	"	10,467
Southern Province .. .. .	26 " ..	"	12,875

In all, 161 estates .. acres 48,508

This does not include estates of *less* than 100 acres in extent.

In addition to these estates must be added the *very* large area of small gardens under cocoa-nut cultivation, appertaining to the natives, in the several provinces of the island.

*Cocoa-nut Oil*.—In the five years from 1837 to 1841, both years inclusive, 2,036,608 gallons were exported; value, 128,129*l*. In the five years from 1862 to 1866, both years inclusive, 7,777,156 gallons were exported; value, 780,837*l*. In 1870, the last year for which a return has been published, the total quantity exported, reduced to cwts., was 135,658 cwts. and 2 casks; value, 170,217*l*.

*Coir*.—In the five years from 1837 to 1841, both years inclusive, 128,912 cwt. were exported; value, 39,717*l*. In the five years from 1862 to 1866, both years inclusive, 222,758 cwt. were exported; value, 168,809*l*. In 1870, 63,623 cwt. were exported; value, 45,904*l*.

In 1870, 5,478,677 cocoa-nuts, value 17,185*l*., were exported.

There were, in 1870, 1,567 oil mills in Ceylon.

In an estimate framed some years ago, but which will have to be largely added to, owing chiefly to the enhanced cost of suitable land, labour, etc., the expense of bringing into full bearing a cocoa-nut plantation of 300 acres, was, in round numbers, put down at 2,800*l*., including commission, etc.; and the gross receipts, the 10th year, when the estate was in full bearing, were given at 5,800*l*. This would yield a net income of 3,000*l*. per annum. It is to be feared, however, that such satisfactory results have hardly been arrived at by the planters.

E. RAWDON POWER, F.R.G.S.

## MARKETS OF THE MONTH.

---

THE mild weather has to a certain extent influenced the coal market in causing a decreased demand for house coals, but the strike amongst the colliers and ironworkers in Wales, and the increased expenses of colliery owners, have neutralised all such influences, and since writing my last report, two successive rises in the price of coal have occurred. The meat market is rather easier; wholesale prices are slightly lower, especially for beef, but retail prices do not appear to have undergone any material change. The flour market is firmer, and prices are unchanged. The excessive amount of wet weather, resulting in floods in many districts, will be productive of disastrous results to the harvests of 1873. Good potatoes are worth any money, inferior are plentiful, and importations from abroad continue to arrive. Prices are—for foreign, from 75s. to 140s. per ton; Kent regents, 185s. to 220s.; Essex and other regents, from 120s. to 185s.; rocks, 110s. to 135s. Anything which can be called a potato is worth 4*l.* per ton. The Cork butter market quotations are:—firsts, 138s., seconds, 130s., thirds, 112s., fourths, 88s.; mild cured, firsts, 146s., seconds, 140s., thirds, 117s. Fresh butter is now worth from 1s. 4*d.* to 1s. 10*d.* Eggs are cheaper; fresh are making from 11s. to 13s. per 120, foreign from 8s. 6*d.* to 11s. 6*d.* The sugar market is dull.

Bacon is imported largely from Ireland, short ribs, in middles, suitable for export, make from 64s. to 66s.; Hamburg and Danish, sizeable and light weights, sell slowly at 58s., 60s., and 62s.; a few boxes of Canadian singed sides have been taken at 48s. to 54s., according to weights. Long cut hams in salt, of 10 to 20 lbs., sell slowly at 48s. to 52s.; York hams from 120s. to 140s. There is a fair demand for American pork, middles in pickle, at 38s. to 42s., and bellies at 44s. to 48s. The fish market is not much changed since my last report; American oysters, fattened by the Conway Oyster Company, and sold at 1s. per dozen, are worthy of notice for cooking purposes. Game is now dearer than it has been all the season. Poultry is also becoming dearer; fowls are higher by 6*d.* a head. Prices are—for turkeys from 1s. to 1s. 4*d.* per lb.; geese from 7s. to 10s.; green geese, 9s. to 10s. 6*d.*; capons, 5s. 6*d.* to 8s.; pullets, 4s. 6*d.* to 5s. 6*d.*; fowls, 2s. 3*d.* to 3s. 6*d.*; ducks, 3s. to 4s.; ducklings, 4s. to 6s.; wild fowl is scarce; black game, 3s. 6*d.*; American grouse, 3s.; ptarmigan, 1s. 6*d.*; pheasants, 5s.; partridges, 2s. to 3s.; woodcocks, 4s. to 5s.; snipes, 1s. 6*d.* to 1s. 9*d.*;

hares, 4s. to 5s.; rabbits, 1s. 3d. to 1s. 6d.; pigeons, 1s.; guinea fowls, 3s. 6d.; golden plovers, 2s.; black plovers, 1s. 3d. each.

Prices now ruling in Covent Garden are—for oranges, St. Michael's, from 15s. to 24s. per box; Valencias, from 15s. to 18s.; Palermo small fruit, 9s. 6d.; Palermo sours, in boxes, about 200, 11s.; Seville sours, 20s.; Messina lemons, 20s. to 24s. per case. Barcelona nuts, 18s.; Spanish, 16s.; chestnuts, Gigon, 10s.; Redan, 10s.; selected, 18s.; Naples walnuts, 24s.; almonds, Faro, 20s.; French, 22s. per bushel; Lapucian nuts, 18s.; Kentish cobs, 22s. per dozen lbs.; Cohn nuts, large, 32s.; medium size, 28s.; small, 18s. per 100; muscatels, Dehesa finest, 105s. to 120s.; next quality, 95s. to 100s.; good from 60s. to 65s. per cwt.; Jordan almonds, from 1s. 7d. to 2s. 6d. per lb.; figs, Eleme, from 45s. to 70s. per cwt.; Comadre, 25s.; prunes in casks, from 29s. to 33s. per cwt.; Almeria grapes, repacked and warranted, 1s. per lb.; in casks as imported, from 22s. to 32s.; fruits in syrups from Portugal, in 1 lb. tins—peaches, 12s.; Damascus plums, 14s.; cherries, stoned, 9s.; whole, 9s.; apricots, 17s. per dozen. French goods—sardines, small tins, 7s.; large tins, 12s. per dozen; truffles in fruit bottles, each, 7s. 6d.; half-pints, 4s.; quarter-pints, 2s.; tomato conserve for sauce, pint bottles, 7s. 6d.; half-pints, 5s.; olives, pint bottles, 7s.; half-pints, 5s.; cockscombs, half-pints, 33s.; peas, from 7s. to 13s.; flageolets, 10s.; haricots nuts, 10s.; mushrooms, 10s.; Macedoine of vegetables, 10s.; asparagus, 24s. per dozen tins. West Indian pomeloes, 3d. to 5d. each; English hothouse pines, 8s. to 9s. per lb.; hothouse grapes, 8s. 6d. per lb.; Tangerein oranges, 10s.; Mandarins, 10s. per 110. Lady apples, 2s. per box; seakale, from 14s. to 27s. per dozen bundles; asparagus, short, 4s. to 5s.; long, 7s. to 9s. per bundle; button mushrooms, 12s. to 14s. per dozen punnets; large, 12s.; cauliflowers, from 2s. to 3s. per dozen; rhubarb, 8s. to 14s. per dozen bundles; imitation new potatoes, 10s. per dozen; spinach, 4s. 6d. to 5s. per sieve; cucumbers, from 3s. 4d. to 4s. 6d. each; celery, 15s. to 21s.; salsify, 9s.; beetroot, 2s. per dozen. Brussels sprouts, 4s. per sieve; Jerusalem artichokes, 5s. per bushel; French lettuce, 1s. 2d.; French endive, 2s.; French coss lettuce, 2s. 6d.; barbe de capucines, 6s.; French artichokes, 4s. per dozen; green peas, 1s. per lb.; Oporto onions, repacked, 25s. per case; turnip radishes, 12s. to 14s.; green mint, 12s. to 14s. per dozen bundles.

P. L. H.

---

NOTE.—Since this paper was written, prices in the meat market have risen. Quotations on January 20th, were for prime beef, 5s. 10d. to 6s.; for best mutton, 7s. 6d. to 7s. 10d.; and there has also been a fall in price of coal equivalent to the rise noted, but merchants have not given customers the benefit of it.

## NOTES OF THE MONTH.

---

DAUNTED by the unprepossessing aspect characteristic of Monte Videan jerked beef, many of our most economically inclined housewives have hitherto hesitated before making even an experimental purchase. Dried ox tongues, reindeer tongues, Bombay ducks, and a host of other foreign articles of the *bonne bouche* kind, however savoury to the palate, are far from being ocularly attractive; yet they are eagerly purchased and consumed by all who can afford their indulgence. Why, we may ask, should the public draw such a broad line of demarcation between these food groups? It is true that some of the early consignments of jerked beef were of very inferior quality, as well as repulsive to the eye, yet the price demanded being small, many persons were tempted to make trials, which, in several instances, proved unsatisfactory. The results of these unfortunate experiments have not yet faded from public recollection, which, coupled with the low price (4d. per lb.), have evidently perpetuated the original prejudice against the dried meat from the River Plate. But the cry for cheap food grows louder as the difficulty of earning a livelihood increases; so that it is with a certain sense of partial relief—a feeling of reprieve almost—that we welcome the letter of a correspondent of the *Glasgow Herald* of the 2nd January. Mr. Forbes comes forward as the champion of the much abused viand, and says:—

“There are very few people, perhaps, not specially interested in the matter, who have any just idea of the number and magnitude of the efforts which have been made, and which are being made, in these countries, to preserve the flesh of the vast herds of half-wild cattle, yearly slaughtered in the *saladeros* . . . . Why don't the people of Great Britain use jerked beef? Let them but overcome the silly prejudice they entertain against it, and then they can purchase perfectly sound meat at about 4d. per lb. much more nutritious, and containing more flavour than any of the tinned preserves, Australian or Plate . . . . Jerked beef requires only to be steeped in cold water some hours to make it fit for cooking in the ordinary way; with vegetables it makes an excellent dish, and when cold is really prime . . . . The beef can be shipped in any quantity, and stowed away in a warehouse for a month or so without undergoing any deterioration. It contains no bones, and salt alone is employed in its preparation.”

Although Mr. Forbes cannot expect to gain the 100l. prize offered by Sir. W. C. Trevelyan through the Society of Arts for “preserved fresh meat,” yet he merits our thanks for re-introducing

a source of food which is practically unlimited. The advocates of jerked beef, however, and those interested in its importation would do well to follow the example of Mr. D. Tallerman, well known in connection with the importation of Australian preserved meat. On New Year's night he gave a free supper to two hundred poor people in the White Horse Alley Mission Hall, West Smithfield; and not only showed them how to open the tins, but performed part of the cooking, or rather warming up, on the platform, giving all necessary explanations. Such enthusiasm, whether intended as an advertisement, or as a kindly act of charity, deserves recognition and encouragement.

---

THE extraordinary influence of the Suez Canal on commerce could not be more readily perceived at a glance than by a comparison of the imports of new crop tea previous to the 31st December during each of the last three years. These were as follows:—For 1870, 50,000,000 lbs.; 1871, 73,000,000 lbs.; 1872, 92,000,000 lbs. At the end of last year the total import of tea from all sources was 181,974,614 lbs., exhibiting an excess over the previous year of 14,827,035 lbs., and the stock in bond at the same date was 15,842,828 lbs. more than at the termination of 1871. Such a result might well create surprise, and probably induce many persons to imagine that the price of tea must necessarily fall; but this idea may be summarily abandoned when it is considered that the present large stock of 88,887,683 lbs. is little more than a half year's supply, and that it has been entirely owing to the speed of steam navigation, and the facilities offered by the Suez Canal, that we have received it sooner than in former years.

---

SINCE the siege of Paris the use of horse flesh for human food has been less prominently before the public. Indeed, notwithstanding the proved excellence of this viand, there is a feeling among Britons inimical to the idea of devoting the noblest of all quadrupeds to the spit or pot after having served its masters faithfully and well. Even if we overcame our gustatorial scruples to horse meat the great barrier of expense would still remain. In short, we cannot afford to cook our horses. In Switzerland, however, a different opinion seems to prevail, if we may accept as correct a recent statement in the *Swiss Times*. It appears that in Geneva the Department of Justice and Police has authorised the slaughter of horses and sale of the carcasses under veterinary supervision, and



that the choice morsels are to be offered at 50c., and the commoner pieces at 40c. per lb. With the continual demand here for young and sound horses for cavalry mounts and other purposes, we cannot help thinking that it would pay our Swiss friends better to export their superfluous horses in future in place of eating them.

---

PEPPER is no doubt a condiment, yet as such it is entitled to be considered as closely allied to food, assisting as it undoubtedly does in the satisfactory digestion and assimilation of viands which, without its pungency, would be insipid. But as it has hitherto been regarded in this country as a trifling luxury, few people would fancy that its production could allure the capitalist. Recent accounts from the French colony of Sargon, however, transmitted to the Belgian Government by M. Olislaeger, inform us that a pepper plantation, once established and well cared for, endures for about fifty years, and that the annual profit is represented as *twenty-five per cent.*

---

BRICK-TEA, hitherto, has remained very much a monopoly in the hands of the Chinese and Russians, for the obvious reason that the latter traders are, even now, the only customers for it. But we are pleased to learn, from Mr. Commissioner Macpherson's report, dated from Haukow (a port 800 miles up the river Yangtze-Kiang), that a British firm there is endeavouring to compete with the native and Muscovite in the manufacture of this commodity. Brick-tea has already been handled in our pages,\* and we need only say we are astonished that all tea is not imported in this form. Were this idea adopted, the saving to merchants and the public would be enormous. The cost of freight would be reduced, the laughable process—named by some irreverend outsiders—"Mincing Lane slobbering," would be rendered unnecessary, and, as the bricks might be individually marked at the port of shipment under Consular authority and commercial inspection, the tricks of the adulterator at home would be neutralised and his best laid schemes utterly baffled.

---

NOTHING marks the Japanese character, as contrasted with the Chinese, more prominently than their unhesitating adoption of European manners, customs, and institutions. Being already in

---

\* *Food Journal*, p. 106, vol. I, and p. 352, vol. II.

possession of steamers and dry-docks, railways and telegraphic lines must soon follow. Already something has been done towards the abolition of the two-sworded ruffians erewhile the terror of peaceably inclined strangers; the army is being clothed in Western uniform and drilled after the European fashion; schoolmasters and science teachers have been invited to settle in the country; the English language is to be the future court and official dialect; so that on the return of the ambassadors, and the young princes and ladies at present being educated in Europe and America, they will find a change indeed. That other modifications of a minor, but still important, nature must have already occurred in the tastes of the Japanese will be inferred from a recent paragraph in the *Grocer*, in which we are informed that an enterprising German has established a brewery at Yokohama for the production of lager beer; for which liquor the natives have evinced a decided weakness. We are assured also that ten Bavarian brewers have been engaged by the Mikado for the purpose of teaching the art. Where, we may ask, have been our Allsopp, our Bass, our Guinness, our Barclay and Perkins, and our other brewers of world-wide renown, to allow such a chance, such a noble advertisement, to slip through their fingers?

---

NOTWITHSTANDING the very determined action taken against the milk adulterators in Dublin by the authorities of that city, the traffic in milk and water is briskly and no doubt profitably plied. It may be taken for granted that in this class of offence, as in many others, the number of convictions represents but a small percentage of the entire body of offenders; and hence, while a few are ordered to pay dearly for robbing their customers, the remainder are reaping a rich harvest with impunity. At a single sitting of the presiding magistrate at the Northern Division Police-court, five dealers were fined in sums varying from 8*l.* to 18*l.* for having sold milk adulterated with water to the extent of from 20 to 80 per cent. His worship remarked that he understood there was some fund out of which these fines were paid, and therefore he very much regretted that he had not the power of imprisoning the defendants, but he would take care to impose such fines as should be felt by the Society. It is scarcely probable that any society exists for the ostensible purpose of affording transgressors of the law an immunity against the consequences of their misdeeds; but there is little doubt that the magistrate was tolerably well informed before he ventured upon the assertion, as it seems scarcely likely that people in the lower walks of life, as many of

these offenders are, can meet penalties time after time until they reach the sums mentioned, without extraneous aid. If the fact were established that an organisation exists of the nature indicated, there can be but one remedy, and that remedy, as we have more than once maintained, is imprisonment. Indeed, whether there be such a society or not, the powers of the magistrates ought to be extended; for, in the case of offenders who have for years carried on a large business by the sale of water at the price of milk, and whose fortunes have long been made, the imposition of a fine is but a mockery of justice. One case of this kind has just been dealt with: a retail dealer was fined 15*l.* for having sold milk adulterated with 100 per cent. of water; he then summoned the wholesale dealer from whom he purchased it, and obtained a conviction against him of 15*l.* If the wholesale dealer had been relegated to the ranks of other dishonest classes in duration vile for a few weeks, he would assuredly have paused before he again risked liberty for illegitimate gain; but what deterrent effect can be produced by the infliction of a money penalty upon a class who accumulate wealth as these men do, who vulgarly boast of their low cunning and of the success which attends it, and who pay any amount of penalty with as much complacency as if they were only parting with cash for a trade consideration. The magistrates—in Dublin at least—have done their best to make the sale of milk and water *unprofitable*. It now remains for the Legislature to make the practice positively *dangerous* to the *liberty* of the trickster. Then—and not till then—may we hope to hear of the suppression of this evil, which is injurious to all classes of consumers, but especially to invalids and children.

---

WHILE we have ever been desirous of exposing the system of adulteration in milk so unblushingly practised in our large towns—and, it is to be feared, in many smaller ones too—we are none the less anxious that our denunciation of the system should apply to those only for whom it is intended, and that in cases of alleged delinquency the culpability of the accused should be established beyond the possibility of doubt. We are led to these remarks by a circumstance that has recently occurred, in which the inaccuracy of a lactometer in a public institution has been proved, and the innocence of a dealer accused of vending an adulterated article established. The workhouse master at Longford, county Longford, Ireland, rejected a quantity of milk supplied by a contractor, as the lactometer indicated that it was largely adulterated with water.

The medical officer also pronounced the milk as impure, upon which the incensed contractor took one of his cows to the work-house, and then and there milked it. A sample of that milk was tested by the lactometer in presence of the Guardians, and the instrument indicated the admixture of a large percentage of water. Again the contractor was indignant, and the Board sent a sample of the same milk to Dr. Cameron, the city of Dublin analyst. That gentleman's report was:—"I congratulate you upon being supplied with so good an article, almost unique in my experience." It was thereupon resolved to enquire of the Board above, in Dublin, as to what test was approved of by them. And there the matter stands. This is, indeed, a very serious question. But for this contractor's consciousness of his innocence, and his determination to establish his honesty to demonstration, he might have been mulcted in heavy penalties—or, under any circumstances, the publication of the alleged malpractice would have been prejudicial to his interests as a trader. We can only hope that the case here cited may cause all persons—whether in authority in public institutions, or in their private capacities—when availing themselves of the advantages of a lactometer, to see that the instrument is of the most approved description, and one upon which implicit reliance may be placed. Otherwise a grievous wrong may be unintentionally inflicted on a class of traders whose ranks are sufficiently swelled with deliberate and persistent offenders, without criminating those who spurn the artifices of the adulterator.

---

FEW people, except those who have made the experiment, are aware how profitable a subsidiary occupation bee-keeping really is. A swarm secured in May, a roomy straw hive in which to house it, a rough bench to support it, and a sloping roof to afford shelter, form the whole of the plant necessary to enable the embryo honey merchant to commence business. What then is the result? Competent judges assure us that on an average every stock-hive surviving the winter ought to yield from 10 to 20 lbs. of honey, leaving a sufficiency to carry the bees over the winter, without the necessity of destroying one of the insects. Even this quantity is sometimes greatly exceeded, according to Mr. Pettigrew, of Manchester. In a recent review of bee-farming in 1872, he says:—

"An old aunt of the writer's, about eighty years of age, makes 10*l.* a year (200 lbs. of honey) from four hives in ordinary seasons. What is done by this old Scotch lady might be done in thousands and tens of thousands of instances by the rural population of England."

It would be pleasant to believe that a spirit of humanity had been at the bottom of the neglect of bee-keeping in England, as it is well known many tender hearted persons object to the barbarity of stifling the industrious little workers in order safely to plunder their stores; but we fear the omission has proceeded rather from ignorance. Besides, the practice of asphyxiation with the fumes of burning sulphur is now almost as extinct as the consumption of witches by fire. In order to obtain a share of the honey it is only necessary to perforate the top of the hive in spring, or withdraw the plug which closes the aperture already there, place a smaller hive above, and in communication with the opening, and in the autumn, after stopping the passage, carry off the upper vessel full of honey, leaving the original hive for the shelter and support of the bees during the winter. Successful as this plan has proved, it pales before another called the "Non-swarming system," which sometimes yields, according to Mr. Filleul, as much as 79 lbs. of the finest honey from a single hive. His advice in effect is:—Give your bees plenty of room at the right time, then plunder them judiciously. That the accumulations of honey by undisturbed bees are sometimes enormous we have often heard, but the latest apiarian sensation, if true, is certainly extraordinary. In Los Angeles, a district on the eastern slope of the San Fernando mountains, a colony of bees have for years established themselves in a cleft of the rock 160 feet in depth. Several bold attempts have been made by miners to ravage this gigantic hive, which is said, in the course of four years, to have acquired fifteen feet in thickness of honeycombs, having an estimated weight of ten tons. But all marauders have hitherto been baffled, and several men have lost their lives in the attempt. On the least symptom of burglary, the indignant and infuriated insects sally forth in a solid column twelve inches in diameter, and successfully defeat every invader. Whether this story be true or not, well ascertained facts regarding the unexpected discovery in strange places of the secret hoards of bees at home are common enough, and are suggestive of an enormous waste of a precious article of food. Butter, when good, is expensive, and when cheap it is usually nasty: honey would form an admirable substitute. Preferred by children, who, indeed, are the chief butter consumers of the British Islands, an ample and cheap supply of this healthful and palatable sweet would speedily check the ambitious views of the dairyman, and its production could not fail to put a few pounds a year in the pocket of every industrious cottager in the three kingdoms who undertook the care of bees.

## CORRESPONDENCE.

## INFUSORIA IN ALE.

To the Editor of the "Food Journal."

SIR,—We are constantly discovering fresh sources of danger to our health and comfort in the common articles of life. Our pork is found to be infested with *trichina*, our bread adulterated with alum, our water with sewage; and now it seems that we are to have beetles in our beer.

The story, although not a pleasant one, may perhaps be useful, even if it should rob some poor man of his beer, and may briefly be told as follows:—During the short but excessive heat of this autumn, I observed from time to time that the ale which I drank with my dinner contained some bits of floating material like filaments of fine thread, and other smaller specks, which resembled nothing in particular. My attention was especially drawn to these objects, as the beer, which was Bass's draught bitter ale, had been hitherto perfectly clear and bright. I consequently placed a specimen under the microscope, and examined it with an inch, and also with a quarter-inch object glass, with the very unpleasant result of discovering that I had been swallowing, certainly for some days, a host of animals of the weirdest form and most unpleasant habits. The field of the microscope positively swarmed, indeed, with *Infusoria Rotifera*, and the minuter *Crustacea*, amongst which I made out *Paramecium* and *Oxytricha Candatum*, numbers of *Rotifers*, which I believe from Ehrenberg's plates to have been *Notammata*, and a fair sprinkling of such small *Entomostraca*, as *Cyclops* and *Daphnia*.

I imagined at first that these votaries of John Barleycorn had been born and bred within the barrel, which had contained their ova before it contained beer, but as we got rid of them at once and for ever by thoroughly cleansing the tap, I was at once obliged to discard this notion and to conclude that they had somehow or other an exoteric origin, perhaps having been "spouted" by some bibulous fly in its search for excitement.

There is, however, another possible explanation of their presence, by supposing that after all the eggs were in the water which was used in brewing the beer, and that some of them gravitating, or being drawn by suction towards the tap, developed into maturity by the aid of the air admitted each time some beer was drawn off. Thus the Infusoria which came to life represented, perchance, a fractional part of the entire number contained in the barrel.

The matter is of some importance, inasmuch as we have here another possible source of disease. It is true, that in this case the creatures which lived in the tap were probably harmless, but it is not impossible that animals of a less benign nature might occasionally get up the spout. As it was, I am not at all sure that these Infusoria did not give rise to frequently repeated attacks of diarrhoea from which I suffered in the autumn, and which ceased after I got rid of the unwelcome guests. The remedy which suggests itself, provided that the first explanation be correct, is so simple as to render it worth while adopting during the hot weather of the fly-breeding season; it is simply to affix a muslin bag to the nozzle of the tap, and so prevent the entrance of flies, etc., to the immediate neighbourhood of the beer, which is doubtless the source of attraction. The bag should of course be removed each time the beer is drawn, and afterwards replaced.

S. MESSENGER BRADLEY, F.R.C.S.

Longsight Old Hall, Manchester.

LIQUID PRESERVATIVE FOR FRUITS.—A correspondent asks for information as to the best liquid preservative for fruits in their green state. Can any of our readers enable us to reply?

## DOMESTIC RECIPES.

---

*The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.*

---

### SEMOLINA PUDDING.

Drop lightly into  $1\frac{1}{2}$  pint of milk, two tablespoonfuls of semolina and stir all together for seven or eight minutes; then throw in 2 ozs. of butter,  $3\frac{1}{2}$  ozs. of sifted sugar, with the grated rind of a lemon, and while the semolina is still hot, beat with it gradually and briskly four eggs. Bake for half an hour in a moderate oven.

### SHREWSBURY CAKES.

One pound of flour,  $\frac{1}{2}$  lb. of Lisbon sugar,  $\frac{1}{2}$  lb. of butter and two eggs. Mix these ingredients into a paste with a glass of white wine. Roll it out thick and cut with a wine glass.

### TO MAKE LITTLE CAKES.

Six ounces of butter,  $\frac{1}{2}$  lb. of loaf sugar, 1 lb. of flour, two eggs, and a little nutmeg.

### TO MAKE A SEA PIE.

Take some uncooked meat cut in slices, and put it in a saucepan, peel some onions and swedes (or turnips if preferred to swedes), cut them in slices and put them in with the meat, and sufficient water for them to stew; then place a steamer or a plate on the top. Peel some potatoes and place on the plate, and then cover them over with paste made of flour, dripping, lard, butter, or suet and a little water, and cover it over the potatoes; the steam from the meat will cook these. When all is sufficiently done, turn it out of the saucepan and eat it very hot.

### CORNISH PIE.

Make some paste with lard or dripping, roll it out; cut up slices of meat, also potatoes, onions, or turnips, or all if liked, fill the paste with these, turn up the edges, add pepper and salt, put it in the oven *without* a plate, and bake for one hour.

### FRIED SOLES.

Skin and clean your fish very carefully; slip a knife down the spine, and loosen flesh from the bones for about three-fourths of the length of the fish. Put the fish into milk for ten minutes or a quarter of an hour; then take out and flour all over. Have your frying-pan with sufficient melted lard or fat to cover the fish, but not absolutely boiling; put in the fish and fry until of a golden brown. Take the fish out; pat it lightly on both sides with a perfectly clean cloth; powder with a little salt, and serve with fried parsley and a lemon cut into slices. Do *not* be persuaded to serve on paper.

THE  
FOOD JOURNAL.

---

INTERNATIONAL EXHIBITION, 1873.

---

On the 7th of March, all that is to be shown in the food department of the Exhibition must be delivered, unpacked, and ready for placing in the cases provided for the purpose; the action of the Committees of Selection will then commence, and each contribution will be finally passed or rejected.

The first meeting of the Fish Committee was held on the 4th of February at Gore Lodge. Resolutions were passed, recommending Her Majesty's Commissioners to take steps to secure representations of Fish in small aquaria, in coloured casts, arranged according to species, and in a preserved condition; and of Nets and Fishing Implements.

The Society of Arts' Committee for Grocery and Drysaltery has met twice, and taken into consideration the list of applications from intending exhibitors, and reports from its several Sub-Committees.

The first meeting of the Committee for the exhibition of Wine, Spirits, Beer, and other drinks and Tobacco, was held on the 12th February. The Committee discussed the general course to be pursued, suggested arrangements for affording the public facilities for acquiring some knowledge of the respective processes of manufacture, and appointed various Sub-Committees.

The Cookery Committee has been busily at work; at its fifth meeting her Majesty's Commissioners notified that arrangements should be made to admit to the School of Cooking large numbers of visitors daily during the hours of the Exhibition. Four Sub-Committees were appointed:—(1), to carry out the arrangements for the School of Cookery; (2), for the exhibition of apparatus; (3), for the science of food, etc., and (4), to consider modes of cooking novel to this country. At a subsequent meeting the Committee resolved to have recipes prepared for cooking



a hundred dishes suited to all classes with incomes not exceeding 500*l.* a year, such dishes to be the subject of demonstration in the School of Cooking.

The fact of the existence of a contract for the supply of all the provisions consumed in the Exhibition has raised questions in connection with the food department, as the exhibitors, and indeed the Commission also, are precluded not only from selling, but also from giving away any article of food or drink. Now, as the proof of the pudding is in the eating, and as few amusements are more attractive than tasting rare and nice things, it was absolutely necessary to make special arrangements on this head, and the result arrived at must, we think, prove satisfactory. There were two cases to be dealt with, namely, *tasting* within the building, and *purchasing* provisions prepared or manufactured there.

The plan decided upon is, that the refreshment contractors shall receive a percentage in each case, to be fixed by agreement between them and the Commission, and that the exhibitors may charge as much or little as they please beyond that, subject always to the approval of the Committee; every article to be marked, we presume, "in plain figures." The consequence of this will be, that those who really desire to make the visitors acquainted with their products, will make very low charges, so, perhaps, in May next, we may be able to lunch on clear turtle, put up in tins in the building and warmed in the School of Cookery; or upon Perigord Pie, followed by Chambertin, Romanée Conté, or Lacrymæ Cristi, for about the usual price of a sandwich and a glass of bitter. Tobacco is included in these arrangements.

We are convinced that if the exhibition of model cookery be well carried out, and we hope and believe that it will be, it must form one of the most attractive features in the whole programme of these International Exhibitions. But it will not be the only attractive feature of the food department; we hear that many food-preparing and preserving processes will also be exhibited, such as putting up meat in tins, and cooking the same meat after it has been thus sealed up for weeks or months; conveying meat in refrigerating cabins, or other receptacles; and processes connected with the preparation of bread, grocery, confectionery, etc.

Her Majesty's Commissioners have decided that the Exhibition shall be opened this year a fortnight earlier than usual, namely, on Easter Monday, the 14th of April.

Finally, we may add, from little glimpses behind the curtain, that unusual energy is being exhibited to make the coming Exhibition successful, and we believe it will prove eminently so.

## HORRORS OF OPIUM.

PART II.

---

MISS HATFIELD, who travelled through Lincolnshire and the adjoining counties in 1815, says in her "Terra Incognita":—

"Through the whole of this excursion I was particularly attracted by the almost general cultivation of the white poppy, with which every cottage garden is adorned. Anxious to know the motive for an appearance so remarkable, on inquiring I was not a little surprised to find that this stately flower was raised for the purpose of distillation; that the villagers had frequent recourse to its lethean juices as an inducer to stupefaction, the worst species of intoxication. That the suffering patient, sleepless and agonized with pain, should fly to the use of opiates; that the Turk, to whom wine is religiously prohibited, should seek a temporary gratification in the delirium they produce, does not surprise us; but that the simple, healthy peasantry of Lincolnshire, who suffer no prohibitions, who live in greater plenty than those of any other county in the kingdom, should seek the deleterious enjoyment, greatly surprised me."

It is this property in opium of producing utter stupefaction and insensibility to pain which constitutes its terrible and appalling danger. The abuser of intoxicating liquors usually enjoys among his associates the taste of the fluid he prefers, over and above the exhilaration it produces; not so the English opium devotee. He stealthily gulps his poison in solitude and silence with a ferocious joy, loathing and abhorring its appearance, taste, and smell, yet eagerly welcoming the oblivion it brings. De Quincy says that in the very acme of his punishment he was sensible of no craving at all like the gnawing thirst of the drunkard for spirits. His feeling was more that of a person under torture, craving relief, yet careless from what source it came. So far from there being any particular desire for opium, there ensued a feeling in reference to the drug itself not far removed from disgust. Twice this gifted author succeeded in wrenching himself clear for a time of the opium habit, but at the third struggle he died. A short period before his decease he thus wrote in despair:—

"New and monstrous phenomena began to arise. For a time these were neglected as accidents, or palliated by such remedies as I knew of. But when I could no longer conceal from myself that these dreadful symptoms were moving forward for ever by a pace steadily, solemnly, and equably increasing, I endeavoured, with some feeling of panic, for a third time to retrace my steps! But I had not reversed my motions for many weeks before I became profoundly aware that it was impossible. Or, in the imagery of my dreams, which translated every thing

into their own language, I saw through vast avenues of gloom those towering gates of ingress, which hitherto had always seemed to stand open, now, at last, barred against my retreat, and hung with funeral crape. The sentiment which attends the sudden revelation that *all is lost!* is too deep for gestures or for words. Upon seeing those awful gates closed and hung with draperies of woe, as for a death already past, I spoke not, nor started, nor groaned. One profound sigh ascended from my heart, and I was silent for days."

Coleridge, our other great English authority on the horrors of opium, thus replied to a friend who had been remonstrating with him on his suicidal folly:—

"I was seduced into the accursed habit innocently. I had been almost bed-ridden for many months with swellings in my knees. In a medical journal I unhappily met with an account of a cure performed in a similar case, by rubbing in of laudanum, at the same time taking a given dose internally. It acted like a charm, like a miracle! I recovered the use of my limbs, of my appetite, of my spirits, and this continued for near a fortnight. At length the unusual stimulus subsided, the complaint returned—the supposed remedy was recurred to—but I cannot go through the dreary history. Had I but 200*l.*, half to send to Mrs. Coleridge, and half to place myself in a private mad-house, where I could procure nothing but what a physician thought proper, and where a medical attendant could be constantly with me for two or three months, there might be hope. *Now there is none!*"

Among his last letters written at the point of death was the following:—

"I used to think the text in St. James that 'he who offends in one point, offends in all,' very harsh, but I now feel the awful, the tremendous truth of it. In the one crime of opium what crime have I not made myself guilty of? Ingratitude to my Maker! and to my benefactors injustice! and unnatural cruelty to my poor children! self-contempt for my repeated promise, breach, nay, too often, actual falsehood. After my death, I earnestly entreat that a full and unqualified narration of my wretchedness and of its guilty cause may be made public, that at least some little good may be effected by my direful example."

In thus exposing the abuse of opium, with a determination to grant no quarter either to the foul vice, or to those who encourage it, it may be interesting to record the experience of a gentleman living in New York, in 1868,\* who was then in his 103rd year, and who affirmed that the drug, instead of weakening his powers of mind or body in any respect, had been of eminent service to both. He was born in England in 1766, received a commission in the army in 1786, served his country in almost every military station in the world, and is, perhaps, the solitary illustration of an exception to the rule that dire punishment follows the abuse of opium. For fifty years he had used the narcotic in doses varying from forty grains, daily, and upwards, and with the exception of the rheumatic attack in 1816, for the relief of which

---

\* The Opium Habit, New York, 1868.

he commenced the indulgence, he had possessed his bodily health and mental vigour unimpaired. But the case of this soldier is so unexampled, altogether so unique, that we can only look with amazement at the man himself as an extraordinary beacon towering unharmed amidst an ocean of appalling human wreck.

Did the abuse of opium not extend to infants and children, the eradication of the vice might almost be accomplished within a generation; but, unfortunately, the drug is in this country administered to some of our offspring in a variety of quack forms, and under various pretences, so that a thirst for narcotic stimulant is excited and developed with their tenderest years. In India the pure opium is dissolved in water, or rolled into pills with sugar, and given to infants by mothers who require to labour from home, and who cannot be accompanied by their helpless and much abused little ones. What wonder, therefore, that such children should grow up a languid, sensual race of hopeless debauchees. Such was the fearful state of demoralisation into which the population of Assam had sunk some ten years ago that our Indian Government prohibited the manufacture of opium in that province, assigning as a reason, "that the drug was eaten by the women, and the children from their earliest years were accustomed to suck rags saturated with the narcotic."\*

Yet, deeply stained as the Chinese may be with this vice, and with other reprehensible practices, the excessive use of opium among them rarely commences until middle age, unless the person happens to be beyond the ordinary fluctuations of fortune. It is even on record that the grandfather of their present emperor was so enraged on one occasion at the discovery of one of his sons indulging in opium smoking, that he himself kicked the boy so relentlessly that he shortly thereafter died. A report is likewise current in China that the present emperor's mother ordered an eunuch to be beheaded for permitting the young monarch to inhale a few whiffs from an opium pipe.

Opium possessing the most energetic narcotic power is the native French, which, according to Guibourt, Roux, Descharmes, and Bernard, yields from 8.20 to 22.9 per cent. of morphia. Next in order is that produced in Algeria, yielding, according to Aubergier, sometimes as much as 17.83. Persian stands on the list at about 11.37; Turkish and Smyrna at about 8.00; Indian at about 5.30 to 7.70, and China at about 3.00. Malwa, Benares,

---

\* See Sir Cecil Beadon's evidence before the Select Committee of the House of Commons, on East India Finance, May 5, 1871, p. 169.

and Patua, are the three varieties produced in Hindostan; the two latter being made up in balls of  $3\frac{1}{4}$  lbs., forty of which are packed in a pigeon-holed chest weighing 140 lbs. net.

The forms of opium indulgence, as might be expected, differ in the various countries whose peoples have succumbed to the seductions of the drug. Here, in America, and on the Continent of Europe generally, it is consumed chiefly as morphia and laudanum. In Bally, opium is adulterated with paper, rolled up with the fibres of the plantain and smoked. In Java and Sumatra, it is sweetened and swallowed with the ripe fruit of the plantain and banana. In Turkey the pill form is preferred, but those of the Mahomedan population, less habituated to the drug, take it largely mingled with syrup; in which form it is less intoxicating, and, of course, less speedily injurious. The steady opium eaters, however, when the allowance of two or three drachms a day fails to excite the beatific visions so eagerly longed for, mix their doses with hellibore and hemp. In Singapore and China the refuse of the prepared extract is consumed by the poorer classes, also the dregs and ashes from the pipes of the more wealthy smokers. This refuse consists of charcoal, empyreumatic oil, some of the undecomposed salts, and a very small portion of the opium intact. One ounce of the prepared drug usually yields about half an ounce of refuse, which is retailed at half price. When smoked, a further result called *sam shing* is yielded, which falls to the lot of the very impecunious; but as this contains only a mere trace of narcotic energy it is stirred into arrack or samshu, and taken as drink.

It must be perfectly evident, that a morbid craving for narcotic indulgence is now deeply rooted in a large section of the human race, and that the only reason why this craving has not led to the most deplorable results has been the expense of the drug. The Chinese authorities have vainly endeavoured, as will hereafter be shown, to exclude the foreign narcotic from their country, and to crush the production of the less energetic native article. Western merchants, headed by the British, have exerted every means to produce the foul poison, and have forcibly thrust it into Chinese homes. Who is responsible for the encouragement of this devil-developed traffic, the merchant or the purchaser?

The plea in favour of a moderate consumption of opium by the Chinese has been urged, that, on account of the corrupt and putrid nature of their food, and the malarious tendency of the districts inhabited by those who live in the valleys of the great rivers, some corrective is absolutely necessary. No such defence or apology could be more fallacious. As a rule the Chinese, although partial to some

dishes possessing a gamey flavour, and probably not particular as to the freshness of their eggs, do not use putrid food; and it is a well ascertained fact that opium smoking is not confined to malarious districts. Besides, it has been again and again repeated by medical men and others who have studied the nature of opium, that there can be no moderation in the use of this seductive drug as an indulgence. No individual can go on taking the same quantity year after year so as to produce the same effect. There is a stern necessity for continually increasing the dose, any diminution of which, after a time, ends in sudden collapse and miserable death.

Meanwhile, if there is a single gleam of hope to be extracted from the foregoing harrowing details, it arises from the facts that the Indian revenue from opium is on the decline, and that in this country there are two distinct and well marked temperaments observable in those who commence the use of opium—the constitution which is, and that which is not amenable to its alluring dominion. The smaller number consists of persons who, as it were, from the first embrace and welcome its lethean or stimulating power; the majority, those who, being nauseated by early doses, revolt at their repetition. People in whom it at once produces sickness and violent constrictions, incur little danger of becoming devotees to opium, after the pressing medical necessity for its use as an opiate has passed away. But those like Coleridge, De Quincy, and others who have horrified the world with their terrible revelations and confessions,—over whose nervous systems opium acts like a charm,—whose vigour it imperceptibly steals, and whose lives it converts into a reverie crowded with beckoning phantoms, ought at once to shun the fatal witchery, lest the narcotic to which in suffering they owed relief should through indulgence prove their ruin.

WM. COCHRAN.

[TO BE CONTINUED.]

---

It is stated on the best authority that a saving of 50 per cent. may be effected in the consumption of coal by simply covering the bottom of the grate with lumps of chalk to the depth of two or three inches, and placing the coal fire on the top of this layer. Plenty of kindling should be used, as there is often not a little difficulty in lighting a fire so placed; but once kindled, it burns steadily, and without need of additional fuel. The chalk serves as a kind of supplementary fuel, by absorbing and retaining much of the heat that would otherwise be wasted. It will, however, in the course of a week or ten days, need to be removed and the grate supplied with fresh chalk, as it becomes what is termed quicklime in consequence of the action of heat, and as such has its various uses, well known to the thrifty housewife.—*American Builder.*

## THE TOMATO.

---

IN the famous trial of *Bardell v. Pickwick*, the eloquent counsel endeavours to hint the existence of some occult amorous meaning in the defendant's note to his landlady, about "chops and tomato sauce." Had Serjeant Buzfuz known as much of botany as he did of human nature, he might have made out a stronger case, for the tomato is also known as the *Love-Apple*. This erotic appellation is not confined to our own language, for the French style it *pomme d'amour*, and the Germans *Liebes-Aepfel*. The Italians, struck by its gorgeous colour, call it *pomo d'oro*, the golden apple; and a recollection of the glowing fruit of the Hesperides may have suggested to the botanists the name of *Paradies-Aepfel*, by which it is also known in the Fatherland.

The tomato (*lycopersicum esculentum*) is a native of South America, but is now extensively cultivated in Europe.

It has been inserted in the first published floras of Cochin China and Amboyna, and hence Targioni-Tozzetti considers it to be a native of India, and expresses surprise that it should have been unknown to the ancients. "But if ever found wild in the Eastern Archipelago it is only as spread from cultivation, for it is now ascertained to be exclusively of Peruvian origin, and was not known in Europe until after the discovery of America."\*

It was probably first cultivated for ornament and not as a food plant. An old herbalist thus describes it:—

"These apples haue round stalkes of a gray or ashe colour and hayrie : three or foure foote long, full of branches : the leaues be great, broad, and long, spread abroad upon euery side, and deepely cut, almost like leaues of Agrimonie, but much greater and whiter : the Floures are yellowish, growing upon short stems, fise or sixe together, and when they are fallen, there come in their places great flat apples, bollen, or by certain places bunched out on the sides, and of colour sometimes red, sometimes white, and sometimes yellow, like Oranges or Mandrake apples, wherein is contayned the seed. All the hearbe is of a strong stinking sauer, and it must be sowne every yeare as the cucumbers be."†

To this we may add, that although sometimes grown against southern walls, it usually requires a frame, and ripens in August, September, and October.

---

\* Journal of Horticultural Society, vol. ix., p. 140.

† R. Dadoens's New Herball., translated by Lyte, 1619, p. 314.

When Dadoens wrote, the plant was strange to Europe, and not found, "except in the gardens of some herborists, whereas it is sown," and he appears to be dubious as to its virtues. He was tempted to taste its luscious fruit, "but by that I can gather of the taste it should be cold of nature, especially the leaues somewhat like unto mandrake, and therefore, also, it is dangerous to be used."

Most Englishmen think of the tomato only as the chief ingredient of the sauce named after it. Its food value is, however, by no means so confined. It can be prepared in a variety of ways. It may be eaten as fruit, without any more preparation than is given to apples and pears.

"It is," says Smee, "a capital vegetable when boiled, and a delicious salad when cut in slices, flavoured with shallot, and eaten with vinegar and pepper."\*

The unripe fruit makes a good pickle, and the ripe fruit a delicious preserve. Having consulted a number of well-known cookery books (including that of Mrs. Glasse), without finding in them any directions for preserving tomatoes, we add a recipe, and advise our fair readers to make a note of it:—

Scald the tomatoes until the skins peel off easily, add an equal weight of sugar, in which they should stand over night, unless they are particularly fine and juicy, then boil for one hour.

Tomatoes make a pleasant dish when stuffed with sage and onions, and roasted goosewise.

Tomatoes play an important part in Italian cookery, and are deserving of more attention than our English cooks have so far vouchsafed them. The variety of forms which the tomato would easily assume under skilful manipulation, might help in the much-needed emancipation from the butcher, and aid in changing, in some degree, the present charnel-house appearance of an ordinary English dinner.

W. E. A. A.

---

\* "My Garden." By Alfred Smee, F.R.S. London, 1872. A magnificent work.

---

**SEIZURE OF UNWHOLESOME FISH.**—During the past two months the officers of the Fishmongers' Company have seized at Billingsgate no less than 34 tons of fish as unfit for human food. The quantity consisted of 5,100 dabs, 6,109 haddocks, 1,100 gurnets, 4,190 herrings, 494 cod, 24 brill, 100 hake, 357 lobsters, 22,626 plaice, four salmon, 80,800 smelts, 572 soles, 903 thornbacks, 142 trout, eight turbot, and 1,860 whiting, and in addition one barrel of capelings, one bushel of mussels and two of sprats, 280 gallons of shrimps, and 500 lbs. of eels.



BOSTON MEDICAL  
MAR 19 1918  
INFANT MORTALITY.  
LIBRARY

In the January number of the *Food Journal*, p. 464, it is stated that, "Although Scotland has only about a-ninth of the cattle in the three kingdoms, it has carried off about nine-tenths of the prizes in the recent great shows of live stock in England, and as to sheep has beaten England, except in those breeds which are alien and unfitted to the Scottish soil and climate." From this it would appear that the Scotch have more skill in rearing and feeding cattle than the English have; and if so, they would—although man is not an animal—be likely to possess more skill in feeding infants than the English. Accordingly we find it stated by Dr. Stark, in the "Fourteenth Detailed Annual Report of the Registrar-General of Scotland," p. 53, that—

"The English are in the habit of stuffing their babies with spoon-meat almost from birth;\* while the Scotch, excepting in cases where the mother is delicate or the child is out nursing, wisely give nothing excepting the mother's milk till the child begins to cut its teeth. The English practice occasioned the death by convulsions of 23,198 children under one year of age during the year 1868, out of 786,858 births; in other words, caused one death from convulsions in every 34 of the children born during the year in England. In Scotland, during the same year, only 312 infants under one year of age fell victims to convulsions, out of 115,514 children born during the year; in other words, one death from convulsions in every 370 born during the year. What a saving of infantile life would occur were the English to adopt the rational Scottish system!"

From this statement it follows, that considerably over 20,000 infants died from convulsions in England in 1868, from being fed with spoon-victuals before they begin to cut their teeth, and that this amount of mortality recurs annually from the same cause. But another fact not less important is connected with this statement, viz., that if this number of infants die annually from convulsions in England from this cause, it is more than probable that an equal, if not a greater, number die annually of diarrhœa from the same cause; and statistics quite agree with this suspicion, for the death-rate from this disease is more than double in England what it is in Scotland, having been in 1868 as high as 138 in 100,000 living in the former, and only 66 in the same number of living in the latter (*op. cit.*, p. 53). In the northern counties, including

---

\* The poorer classes usually within one month after birth. This I have ascertained by inquiry.—B. C.

Durham, Northumberland, Cumberland, and Westmoreland, the death-rate from this disease among children under two years of age is reduced to nearly half of what it is in many of the English counties ("Supplement to the Twenty-Fifth Annual Report," pp. 12, 13); so it may be supposed that the inhabitants of the northern counties have learnt something of the good customs of their neighbours the Scotch.

There can be no doubt that one reason why spoon-diet causes disease in children previous to dentition is, that the food given is at once swallowed by the toothless infant, so that it is very imperfectly mixed with the saliva; on the other hand, the act of sucking causes the saliva to flow and at the same time to mix with the milk; and the more slowly the milk flows, the more perfectly the mixing is effected. Toothless persons often become affected with indigestion from this cause, notwithstanding that they chew their food as well as they can, and much better than a toothless infant does; and Mr. Mellin states, in Vol. II., p. 571 of this Journal, that "fast-eating people invariably suffer from indigestion" from this cause, and that "infants before they have teeth cannot digest because they cannot insalivate farinaceous matter," the especial reasons for which he clearly explained.

Might not all spoon-diet be made sufficiently liquid to be sucked through a tube out of a bottle? The more difficult and slow the operation is to the infant, the more perfectly the food would be mixed with the saliva. But it should not for a moment be supposed that this difference in the mode of giving spoon-victuals will make up for the difference between it and the mother's milk. The old maxim that "children, like chickens, should be fed little and often," may be a serious mistake, if spoon-diet is substituted for the mother's milk when the mother is away from home for a few hours only in each day. A mother of a large family has informed me that "nothing is so good for a child as the mother's milk, and that hand-fed children are more liable to chest complaints," and if so, to most of the diseases affecting children, except the contagious.

B. CLARKE, F.L.S., M.R.C.S., etc.

---

**PRESERVED MEAT.**—The value of preserved meat otherwise than by salting was last year as much as 906,680*l.*, and in the previous year it was only 671,452*l.* A great quantity probably came from Australia. The salted or fresh meat in 1871 represented 102,975*l.*, and last year 138,642*l.*

## DISEASES AND DEFECTS OF WINE.

## PAPER II.

"ACETATION."—Amongst those abnormal changes in wine which are recognised under the name of "disease," a foremost place must be assigned to "acetation," or "acidification," in which the alcohol contained in the wine is transmuted into vinegar by the oxygenating influence of the surrounding air. This action, we know, is not exerted directly, as alcohol, however much diluted with water it may be, will never turn into vinegar so long as the water and the surrounding air are pure. The presence of some foreign agent appears essential to the process of conversion, and this agent is now generally admitted to be a particular form of ferment—the acetic, known in common parlance as *vinegar plant*—the germs of which we must suppose are communicated to the wine, directly or indirectly, through atmospheric agency, and become developed therein under the concurrence of suitable conditions.

Now, as the most scrupulous care and cleanliness are oftentimes insufficient to prevent contamination from atmospheric sources, it becomes necessary to learn the premonitory symptoms of the disease, so that in the event of its appearance, its inroads may be checked in time. Upon this point the Viscount de Villa-Maior writes as follows:—

"Like every other malady, 'acetation' is preceded by a certain turbidity in the wine. When wine in a state of quiescence is not perfectly clear, we may always suspect mischief, seeing that as limpidity is a token of soundness, so a greater or less degree of turbidity is an infallible sign of sickness. In imperfectly filled casks—and it is in these that 'acetation' generally appears—a sort of mould often forms upon the surface of the wine. So long as this mould is colourless, it is *not* proof positive of the existence of 'acetation,' although it *is* a proof that the wine is in a condition favourable to the appearance of the latter. When, however, the vegetation has a reddish or yellowish colour, it is no longer composed of flowers of wine (*mycoderma vini*), but of flowers of vinegar, or vinegar plant (*mycoderma aceti*), and 'acetation' has already set in."

Another tolerably sure sign, he tells us, is the formation of a sort of glutinous film about the seams of the cask, the existence of such deposit being generally indicated by the presence of a hovering swarm of tiny flies, such as are seen in great numbers in vinegar manufactories (*Drosophila cellaris*, Kirby & Spence). A very pronounced taste and smell of vinegar are only observable when the malady is so far advanced as to be, in all probability, past cure.

Assuming the malady to be in a merely incipient form, our chance of safety lies in the prompt separation of the sound from the tainted portions of the wine. "Acetation," he it observed, begins at the surface and spreads downwards. Our first care must therefore be, to determine the depth of the affected stratum by inserting a spile into the cask at various heights. This point settled, the sound wine below should be run off over the fumes of brimstone into a fresh, clean, well sulphurised cask; a small quantity of brandy, say one or two quarts per pipe, being added thereto, together with about a dozen quarts of good sound wine of the same description, to restore the flavour. The whole should be "fined" with white of egg, allowed to stand for a time, and then racked off into another well-sulphurised cask. The tainted portion of the wine may be used for distillation, or for making vinegar, but it should be observed that spoiled wine rarely makes good vinegar. When the taint of acidity pervades the whole volume of wine, any attempts at restoration must be preceded by the neutralisation of the acid principles with carbonate or tartrate of potash, or in some other way. All such methods have the disadvantages of communicating an ill-taste to the wine, and of impairing its hygienic properties; and the same may be said of the Greek method of adding resin to wine as a preventative of disease. Additions of chalk or any other metallic base, and attempts to disguise the acidity by an admixture of treacle, honey, etc., are condemned by our author as flagrant breaches of commercial good faith. The practice of mixing sound wine with sick, to restore the latter, can but lead to the ultimate "acetation" of the whole, and the consequent loss of the sound wine. "All things considered," he says, "it is better—and not only better, but cheaper and easier—to prevent the occurrence of 'acetation' than to attempt to cure it when it has been allowed to appear." The preventive measures here required are scrupulous cleanliness in vinification, and careful exclusion of atmospheric contact with the wine. If the latter be worth the trouble, heat or cold may be applied, as described in our preliminary paper, to destroy any organic germs of destruction lurking in the wine.

TURNING OR RISING.—There is another form of disease which must not be confounded with "acetation," namely, "turning or rising." It not unfrequently happens that wine, after keeping good for some time, will turn thick, and show signs of some internal change, accompanied by a slight effervescence produced by the evolution of small bubbles of carbonic acid. In closed casks the gas accumulates, exerts a sensible pressure on the surface of the wine, and unless the bung be removed, drives the

liquor through the interstices of the staves. The wine has a nauseous taste when retained in the mouth; and if stirred in contact with the air becomes dark and cloudy. Unless arrested in time, this affection ruins the wine, and ends in its putrescence—the last-mentioned stage not being a phase of the disease, but the ultimate decomposition of the dead wine.

The malady of which the symptoms are thus sketched, is known to French writers as *la pousse, le poux, le tour*, etc., and wine so affected is described by them as *poussé, laré, tourné, monté*, etc. Portuguese œnologists are equally diversified in their nomenclature, but the majority recognise the form of disease in question under synonyms equivalent to “turning” or “rising.”

“‘Turning’ or ‘Rising,’” the Viscount de Villa-Major observes, “is an internal abnormal change showing itself in the lower portion of the wine, or, to speak more correctly, in the lees, in contradistinction to ‘acetation,’ which generally commences in the uppermost stratum where the wine is in contact with the air. It is possible, and, indeed, probable, that various causes may contribute to produce the malady, and that, consequently, there may be several sorts of ‘turning.’ Still the most common type is that which affects wine in bad seasons, or when made of inferior fruit, grown in damp, low-lying localities, or wine which has been improperly kept, particularly where facilities for ‘racking’ have been wanting. It shows itself in the manner above described, and is caused by a particular variety of ferment existing in the lees, which under certain suitable conditions, such as during hot weather, the prevalence of thunderstorms, the seasons of the budding and flowering of the vine, and the like, rises\* and produces fermentation in the wine.”

It appears most probable that wines thus affected have been inoculated with the germs of the malady, through the agency of diseased or decayed grapes, which, by neglect or inadvertence, have found their way into the vats or tanks.

The malady is at present very imperfectly understood, alike in respect of its proximate causes and ulterior effects. In its early stages, “racking-off” into well-sulphurised casks, followed by “fining” and “brandyng,” is the most advisable course. In the more advanced phases, when the lees rise, and the wine “works,” it is practically incurable. The wine may be used for the purpose of distillation, but at the risk of getting a bad spirit for our pains.

**BITTERNESS.**—The malady next requiring consideration is “bitterness,” betwixt which, and the turning and rising just treated of, a

---

\* The coincidence of certain changes, abnormal or otherwise, in the wine, with certain stages in the growth of the parent vine, such as budding, flowering, and the colouring of the fruit, need not be regarded as implying the existence of any occult relations between the plant and its produce, but may be explained by certain meteorological influences, peculiar to the several seasons, similarly and simultaneously affecting the development of the parent plant and the growth of the microscopic vegetation or ferment in the wine.

close relationship subsists. Turning, however, is a characteristic of ordinary wines; bitterness, on the contrary, is an affection of high-class wines. The finest red Burgundies, made from a variety of grape known as the *pinot*, are specially liable to it. An eminent French authority, M. de Vergnette Lamotte, recognises *two* forms of the disease—one attacking wine in its second or third year, the other only to be found in very old wine in bottle. The latter is far less serious in its consequences, and is often called “the taste of age.” The former attacks the wine in the earlier stages of its existence, affects it profoundly, and eventually destroys it. It is described thus:—

“At first, the wine gives out an odour *sui generis*, its colour falls off, and a disagreeable flavour becomes distinctly perceptible. Bitterness has not yet shown itself, but its advent is sure, unless some measures be taken in time to prevent it. If these be neglected, the symptoms become aggravated; the wine gets bitter, with a slighter show of effervescence, caused by some vestiges of carbonic acid. As the malady progresses further, the colouring matter and tartrates are decomposed, and the wine becomes unfit to drink.”

“In Burgundy, this malady sometimes attains to the proportions of a veritable calamity. The evil never appears in isolated cases, but attacks large quantities of some particular vintage at one fell swoop, as happened in the case of the vintages of 1840 and 1842, so that the consequences are felt far and wide.”

The writer first quoted, asserts, on the authority of a long series of recorded observations, that “bitterness” never occurs in Burgundies of good vintages, but in those cases only where the grapes have become deteriorated, as they were by the blights of 1840, and the protracted rains of 1842.

The Viscount de Villa-Maior, after noticing the imperfect knowledge of this disease now subsisting, and the necessity of keeping systematic records of all the processes of vintage and vinification as a guide to our mode of treatment in the event of the appearance of disease, proceeds to discuss the several forms in which it appears. There are, he thinks, at least three distinct types of bitterness.

1. The form of malady described above as common amongst the finer red wines of Burgundy, and the South of France, in the earlier years of their existence, taking its name from the quinine-like flavour which is one of the most prominent characteristics of wine thus affected. Of this form of bitterness it may be said, emphatically, that prevention is better than cure. \*

---

\* The “heating” and “refrigerating” processes are obviously better adapted to prevent the occurrence of the malady than to stay its progress when it has once commenced. M. Marchard recommends a mode of treatment which may be serviceable in the earlier stages of the malady. It is as follows:—The wine is first carefully “fined” with white of eggs, it is next racked off into a fresh cask (over fumes of brimstone) until the cask be three parts full. Lastly, the cask is filled up with sound wine of the same draught and of the same age, or older.

2. The peculiar taste sometimes observable in very old, sound wines of the same class after many years in bottle, which is popularly designated "the taste of age." M. de Vergnette Lamotte holds this form of bitterness to be essentially different from that met with in newer wine, and denies M. Pasteur's assertion that its appearance is connected with the presence of certain microscopic filaments, on the ground that an investigation of the sediment of wine thus affected, has never shown these to be present in sufficient numbers to justify us in regarding them as the cause of the peculiarity.

3. Bitterness produced by atmospheric action upon wine kept in casks incompletely filled, either by direct action on the colouring matter, or by the formation of a grey resinous anhydrate, the bitter flavour of which is communicated to the wine. For this, "sulphurisation," and keeping the casks properly filled, are the most fitting remedies.

Besides these three forms of the malady, we have the bitter flavour not unfrequently imparted to wine by the chance solution of some bitter principle in the wood of the cask. This defect may be removed by filtration through charcoal.

H. M. CHICHESTER.

[TO BE CONTINUED.]

---

TURTLES.—The great turtle in the Brighton Aquarium, a female (presented to the company, I believe, by Mr. Painter, of the Ship and Turtle, Leadenhall Street), died last week of tubercular disease of the lungs, brought on by the cold weather, and I fear also by want of nourishment. The great creature measured 3 ft. 4 in. in length and 2 ft. 3 in. in breadth over the back of its shell, and when it arrived, about four months ago, weighed 209 lbs., but since then had lost 44 lbs., only weighing after death 165 lbs. I made a *post mortem* of it, and found, in addition to the tuberculosis, a hard tumour as large as a pullet's egg at the back of the lungs. The poor thing had been cruelly treated on board ship. There were old wounds made by nails or spikes in each of its flippers, and it had evidently been crucified down to the deck or a board. The turtles have never taken food well. They have been tried with fish and flesh, which our friend Bartlett tells me is the best thing for them, and also with vegetables, terrestria and aquatic. The "hawk's-bill turtles" sometimes seem to enjoy a mouthful of green seaweed (*Ulva latissima*), but even in hot weather, when they were, of course, most vigorous, did not eat enough of anything to make green fat. Some carping fault-seekers objected to the introduction of turtles to an aquarium "because they are lung-breathing animals." But they are inhabitants of the sea, and the Brighton Aquarium is the only place where large specimens of them can, at present, be continuously shown in confinement.—Frank Buckland in *Land and Water*.

## SAUSAGE MEAT.

---

As a large portion of the food of our poorer classes, and even of those in a higher branch of society, consists of finely chopped flesh of beef or pork, and as there exist great divergencies between the English productions and those which are prepared by the French *charcutiers*, we think the subject, involving as it does the solitary article of meat consumption of thousands, is not beneath our consideration. The sausage, the saveloy, the polony, black pudding, white pudding, and faggot, although they are perhaps articles of diet scarcely known to most of the readers of this Journal, yet form the only apologies for meat which many of our poorer classes are able to procure. The sausage in all its luxurious forms, whether imported from Frankfort on the Maine or as a home production from our eastern counties, is familiar to all. It is almost universally composed of the *débris* of pork, the shavings and choppings of which are utilised ; although they are usually sold at a higher rate than fresh pork would be, the current price varying from 10d. to 1s. per lb. for Cambridge sausages, and 1s. per packet for four small and delicately flavoured Frankfort sausages. The distinction between the *saucisse* and the *saucisson* is not so clear amongst the English *charcutiers* as abroad ; and the substitute for "German sausage" which is commonly sold in the English shops under this seductive title, is usually composed almost entirely of beef offal, so disguised in flavour as to make it in some way resemble the true German sausage. From this it is easily distinguished by its greater pinkness, by its lower specific gravity, and by the cheaper price. Real German sausage is sold in London at 2s. per lb., thus keeping it as a luxurious comestible, but the spurious article is vended at 10d. The more tasty products of pork are only known in the Soho district. *Saucisson de Lyon*, with its strong garlic flavour and wrapped in tin foil, is sold at 2s. per lb. in small fine slices, while the more highly flavoured *Strachino de Milano*, which is composed of equal parts of horseflesh and beef, wrapped in the peritoneum of the hog, is sold at the same price. I only know two shops in the Italian quarter of London where this compound can be bought by those who are above prejudice, and who only consider a food product in relation



to its nutritive value and its flavour. I most cordially recommend it. The wild boar sausages which form such a delicacy to the population of Eastern Belgium and North-Western Germany are entirely absent from England; yet the price at which they are sold in their native countries is not high. The German sausage used in the late war is, perhaps, a wholesome and convenient method of supplying coarse food on a large scale to enormous bodies of men, but having tasted it, I am not able to speak favourably as to its flavour, which was most offensive.

It is not, however, of expensive foreign luxuries that I am now writing, but of the cheap dainties of the English poor. The first and most frequent is the "penny saveloy," which, with a penny loaf, makes a dinner to many of our labouring classes. They almost always, in London at least, mispronounce the name of their food, making a trisyllable "sa-ve-loy," and thus ignoring the derivation of the word. *Loy* is a good, old, Norman French word, signifying inferior meat, precisely synonymous with the English "cag-mag," and a *saveloy* is an article in which the *loy* is saved. *Loy* is also an obsolete word used in the North of England for the *débris* of fibrinous or membranous substance left in the pan after pork has been melted, so as to "render" off the fat, which is used for culinary purposes. The *loy* is usually thrown away. Some guesser has tried to imagine a connection between the words saveloy and Savoy, but has been unable to trace the introduction of the English sausage to the Piedmontese province. The cognate word *alloy* is clearly derived from *allier*, to mix.

As the article exists before us at the price of one penny, it probably represents the maximum amount of cooked meat that could be acquired at the price. Into its precise composition I am not about to enter, for the obvious reason that it is not warranted to be formed of the flesh of any particular domestic animal. It is, however, clear that the chief component part is beef, which, with pepper and salt enclosed in the ordinary sausage cover, is boiled, and usually consumed cold. A more luxurious compound exists for a higher class of society, and is retailed as a "small German" for 2d. I am unable to detect any resemblance which it bears to the genuine German sausage, or any superiority in its composition to the penny saveloy. Another form usually retailed at 1½d. or 2d., is termed the *polony*, not in remembrance of the unhappy land of which it has been written *Finis Poloniae*, but because it is supposed to bear some resemblance to the Bologna sausage. There can be no doubt that raw pork forms an important ingredient in the polony, which is thus capable of being the agent by which *trichiniasis* may be

indefinitely transmitted. I cannot consider either the polony, with its unwholesomeness disguised under a bright red skin, or the "small German," as equal to the saveloy. They are both nastier and dearer. The saveloy cannot be said to be particularly nasty, or particularly unwholesome. It is certainly cheap, and is too important an article of diet to pass over with absolute contempt by the student of our food supplies.

With regard to sausages which are made from beef, instead of pork, finely chopped, and retailed at 5*d.* or 7*d.* per lb., we are unable to speak favourably, either of their constituents, or of their nutritive value. This latter seems to depend principally upon the amount of the fat used in the pan in which they are fried, and not on the value of the beefy and glutinous admixture with which they are filled. Sausage meat, whatever it may be, possibly beef, is not usually exhibited under its highest manifestations in the cheap London sausage.

We have now to deal with the "puddings" made of blood and other substances. On these, from a dietetic point of view, the words of the old Scotch song forcibly recur to our minds:—

"Oh! first they ate the white puddings,  
And syne they ate the black;  
But muckle thought our gudewife to herself,  
And never a word she spak."

The indigestible and unwholesome food being first consumed, after that there was devoured what is perhaps not such a very unwholesome form of diet. The white puddings are composed of oatmeal and fat, in the proportions of two to three. They are closely similar, when boiled, to the cheap boiled beef sausage of London, and are as tasteless and as innutritious morsels as can well be imagined. The black pudding, which used to form a large part of the diet of the ancestors of the Saxon population of England, is a very different product. Composed of the fresh blood and fat of the hog, intermixed with the boiled seeds of wheat or barley, they are boiled, and sold to the poor at the price of one penny. At the cheap shops, parboiled rice is substituted for wheat. They are usually sold cold, and the dish is thought to be agreeable when they are split, peppered, and fried. There is no doubt that the flavour is strong, and that all the products of the blood are present, and may be converted, in those whose digestion is strong enough, into "protoplasm." An improvement of this food has not been yet attempted by the students of the value of our popular diet. It would be easy to invent some form, in which, by the addition of any strong condiment, as curry, or cayenne pepper, the nauseating taste

of blood might disappear, and the pennyworth of food rendered, not merely unpleasantly wholesome, but "toothsome" to the consumer. But, probably, the inveterate prejudice which exists in England against improving our food, no matter how common, would tend to preserve this article of consumption in the miserable condition in which it rests, nearly as gross as when Athelstan or CEdwy fed on parboiled hogs' blood.

We turn now to the last article on our list, the "faggot." This, we beg to assure our readers, has nothing to do with bundles of sticks. It is composed of scraps of every sort of meat, chiefly pork, but of inferior pieces to those which compose the sausage. These are mashed up into a mass, with the addition of an enormous quantity of "genuine gravy," being a compound of hydrogen and oxygen from the neighbouring tea-kettle and baked in a tin dish.

From a careful review of all these various forms of food, the result appears clear that there are none which can be said to be positively unwholesome, though many may be dubious as to their origin, and unpleasant to the taste. But the object of the poor, which every month, in the present state of prices, is more difficult to obtain, is to have something for the daily meal, which, if not exactly meat, has the carneous flavour. The mere fact of the consumption of such food, under any circumstances whatever, is sufficient to demonstrate the inherent repugnance which the vast bodies of mankind feel towards vegetable food alone. The semblance of animal diet must at least delight their taste, if it does not fulfil any direct nutritive result. We see by this how the desire for animal food clings to the inhabitants of northern countries, and how the foulest, the most disagreeable, and even the most innutritious articles of diet are selected, if only they possess something like the flavour of meat.

C. CARTER BLAKE.

---

OUR drinking water is still far below the standard of purity. Dr. Frankland reports that during the last month the liquid supplied by seven out of the eight water companies who draw from the Thames and the Lea was "much contaminated with organic matters." On the other hand, the water of the New River, East London, and Kent companies were clear and transparent. Of the companies which derive their supplies from the Thames, the West Middlesex alone delivered efficiently-filtered water. In Birmingham matters are apparently even worse. Dr. Hill states that, although "the water was pretty clear, it contained a high proportion of organic nitrogen," indicating very recent sewage contamination.

WINTER REMEDIES.—Those entrusted with the care of children will be glad to know that the Glycerine Soap manufactured by Mr. F. A. Sarg, of Vienna, is highly valued for its curative properties in cases of chilblain.

## ON DINNER GIVING.

"Que ça est bon—ah ! goûtez ça !"—*The Town Mouse.*

THAT fools give dinners and wise men eat them, is one of the many apophthegms which have obtained currency rather from their epigrammatic smartness, than their foundation in truth. It probably originated in some such selfish and ungenerous purpose as Shylock developes, when he says :—

"I am not bid for love ; they flatter me :  
But yet *I'll go in hate—to feed upon*  
*The prodigal Christian—*."

The motives which influence men in giving dinners are, for the most part, wise and prudent ; at all events they merit commendation. There may be some wealthy entertainers, who are governed by an idle ostentation in the display of their plate, their crystal, and their costly wines, but the number of such hosts is comparatively inconsiderable, and if they have not some personal qualities which commend them to men's regard, their guests accept their invitations merely to eat such a meal as they cannot obtain elsewhere.

The habitual dinner givers are men generally gifted with large intelligence. Their cards or notes of invitation are prompted by sagacity or good feeling. Among the former, are the men who believe that the dinner table should be a miniature congress for the discussion of affairs of moment, from the settlement of a parish question, to the organization of a joint stock company, or a cabal. "A well ordered dinner," said Cambacérès, "lubricates the wheels of business amazingly." Others invite people to their mahogany, that they may carry captive their judgments through the medium of their stomachs.

"C'est en dînant qu'on gouverne le monde !"

A third class of dinner givers make the banquet a means for bringing men together who desire to know more of each other. A fourth, to pay a compliment to a friend on his marriage, his acquisition of a title, or of a fortune. A fifth invites his friends, that he may hear their good stories, which he will endeavour to balance and requite by some of his own.

But, to whatever category they belong, all are particular as to the composition of their *menu*, and either give the order themselves, or carefully examine the *carte* which their *chef de cuisine* sends up each

day for their inspection. For some years Englishmen affected French cookery, which gradually gave way to a passion for the Russian style. Of late we have returned to our allegiance to the old national diet, without quite abandoning our foreign alliances; the fact being, that during our continental trips and temporary residences abroad, we have discovered that all the nations of Europe have become more or less enamoured of our English method of dressing meats, and lament that they have not such "flesh of beeves or muttons" as our own markets produce. Tradition assigns to our civic dignitaries a pre-eminence in the art of feeding, and to this hour, numerous weak-minded individuals believe that turtle soup, turbot and venison, constitute the daily regimen of the members of the corporation of the city of London. But a late respected alderman told the writer of this paper that the *gourmanderie* ascribed to his civic friends was a fiction. "We like plain food, sir," said the worthy citizen of credit and renown, "and only in moderation. For instance, give me a basin of Scotch broth—which is the champagne of soups—a tender steak, oyster sauce, and a well boiled potatoe; a bird, partridge or woodcock (I care not which), an apple tart, a bit of cheese, with a bottle of port and a glass of sparkling Moselle, and I wish for nothing more!" This alderman rivalled Mrs. Malaprop in politeness. His exception established the supposed rule. We do not find that this model of a dinner is precisely the kind of thing that is adopted by the generality of our hospitable friends, for the dominant feeling with them is that broth, steaks, and a tart form so common a refectation at home, that guests would hardly think it worth their while to dress for so simple a spread "dressed" for them.

It is unnecessary to prescribe the kind of exceptional dinner which a man of refined taste and ample means would set before his friends. He will have discovered that among his *intimes*, there are some who have preferences for particular dishes, and to such tastes the cook will have special instructions to minister, but, generally, there is so much variety at a well-furnished table, that the man will be hard to please who cannot find, amidst the collected viands, something to gratify his particular appetite. We will only suggest one caution. Do not offer travelled guests and foreigners the compositions to which they have been accustomed abroad; they cannot have them in the national perfection. Thus, abstain from giving curries to old Indians, or stewed cucumbers swelling with forced meat to Italians. To a Frenchman, you may offer *côtelettes* dressed after the Paris fashion, for it is certain the meat will be better than any he can get at home.

In the selection of a dinner party, we would strictly follow the injunctions of the celebrated Mr. Walker, the magistrate, whose paper on "Aristology," in the "Original," must have been written while the spirits of Lucullus, Apicius, and more modern *gastronomes* hovered around him. Never have a greater number than eight persons, including yourself and your wife, if you are blessed with such an ornament of life, and let your table be circular. Thus, all the assembled party can see each other—if no jealous *epergne* or envious bouquet acts as a focus for the radiation of scents, antagonistic to the savoury food—and, moreover, they can hear each other, if by chance any good thing is said. Epigrams and anecdotes are allowable, and often worth the treasuring; mere talk, if it be good, is likewise to be tolerated; but no arguments—no! Even a syllogism will be disputed by cantankerous people, who are always on the watch to "deny your major," or refuse to admit the premises.

If there is no parson at the table, say "grace" yourself. Let it be as brief as possible, for depend upon it, your guests are prepared to fall to, and no scope should be afforded for verbal criticism. Avoid *Macbeth's* grace—"May good digestion wait on appetite," for it has been so hackneyed by actors, that its force has evaporated; and take good care that if you have a long-winded divine, and especially a dissenting minister at table, he be previously cautioned to be economical of his benediction. There is still a tendency to "exhortations," and we can only recommend the adoption of Gratiano's advice—"end them *after* dinner."

In regard to the ordering or arraying or, rather, *serving* the dinner, we would strongly advise the adoption of the practice of the late Alexis Soyer. "Gentlemen, you see your dinner," may be all very well when there is really nothing on the table but a boiled leg of mutton and caper sauce—the sequel pudding *bien entendu*; but Soyer's maxim was, "Place only one dish, or at most two, at a time before your friends. Let everything be deftly carved, and symmetrically put together again, before it makes its appearance; and take care that every item is so tender that steel knives are unnecessary. The fork and a crust of bread should suffice for meat, as well as fish."

Finally, adapt your wines to the course. Walker advised champagne as the *Alpha* and the *Omega* of the banquet. But all men do not drink French wines, and some will not touch the Spanish or Portuguese vintage. The best plan, therefore, is to let each guest drink what he or she may most affect; and here ends our catechism.

J. H. S.

## FOWLS.

---

IF bee-keeping, as shown in a recent "Note," is a profitable employment, how much more so ought to be the rearing of fowls. Bees are not usually eaten, and, with the exception of a species found in Ceylon, and enjoyed as an occasional gustatorial delicacy by some of the natives, we are not aware that the apiarian family are used for human food. In this respect alone, therefore, domestic fowls possess the advantage over bees that we can eat them and their eggs as well. But, unfortunately, in this country, our supply of fowls and eggs from native sources is invariably less than the demand, consequently, a prohibitory price, except on rare occasions, keeps both from the poor man's table. An idea has also spread far and near that rearing fowls does not pay, and although the fallacy of this notion was long ago exploded by Mr. Mechi—an authority on such subjects—and more recently by Mr. Wright, of Crouch End, in an interesting letter to the *Times*, of January 24, the agricultural mind still clings to the delusion. Instead of bringing science to bear on this form of industry, and largely increasing our home production, we, last year, contentedly paid the Dutch 217,542*l.* for poultry and game, and we are at present disbursing over 5,000*l.* a day for eggs from the Continent; the total value of which for 1872, according to the Board of Trade returns, having been 1,265,484*l.* It is true that our lively neighbours, the French, obtain the chief benefit arising out of our growing demand for eggs; and it may be said that "it's not lost what a friend gets," but we venture to believe that the above vast sum would have been much more satisfactorily spent in the country among our farmers and peasantry, than distributed abroad. When it is recollected that, of the 558,000,000 eggs imported into the United Kingdom in 1872, the greater portion came from France, we are led to infer that the French agriculturists must be in possession of some secret in the management of fowls of which we still remain ignorant. This deduction is strengthened when we remember that, as a Roman Catholic country, the home consumption of eggs in France must at all times exceed that of a Protestant nation possessing even a larger population; so that if our neighbours—after satisfying their home requirements—have so many left to export, the total quantity produced must, indeed, be enormous. Yet there is no secret in the case. The French rear their fowls under a system

which combines forethought, care, and economy: we, as a rule, permit our "barn door's" to roam at large, pick up food when and where they can, and lay wherever they choose. Some of this neglect is, no doubt, owing to the different views of farming which mark the two countries. Here we cultivate on a large scale, and the British farmer is apt to overlook, ignore, or at best to conduct his poultry yard in such a hap-hazard, happy-go-lucky style, that its profits rarely disturb his calculations or appear as an item of income, but are looked upon as an insignificant fund out of which are defrayed the cost of ribbons and trifling articles of finery which deck his smiling spouse and buxom daughters. In France, M. de Lavergne tells us, the small farmers or peasant proprietors, especially of La Bresse and Revormont, who cannot afford to lose sight of even the least addition to their revenues, annually realise, from their poultry alone, from 3*l.* to 5*l.* per acre, according as the bulk of their crops happens to be rye or buck-wheat. That the trade in eggs between the Continent and the United Kingdom is one which possesses no ordinary interest, and which yields no common profit may be inferred from the fact that, during the last sixteen years, it has augmented nearly five-fold, whilst the prices obtained, instead of diminishing, have increased. In 1856 the wholesale value, Mr. Wright says, was 5*s.* 6*d.* per 120 eggs; 6*s.* was the figure in 1871; and an average of the last five years shows the price to have been 6*d.* for 10. It must be perfectly evident, therefore, that if producers and dealers are satisfied with such prices, the British agriculturist and peasant must be neglecting a valuable source of food for the people and income for themselves, in thus allowing a lucrative trade to glide into foreign hands. It may be premature at present to allude to the artificial preservation of eggs in their natural condition for an indefinite period, yet, in anticipation of the good time coming—when they shall have become as plentiful and cheap as gooseberries, and in the interests of travellers by sea and in inhospitable climes—we may mention that the antiseptic virtue of lime is all-powerful. Recently burnt lime is mingled with water, so as to form a cream-like fluid, into which the eggs to be preserved are placed. Carbonate of lime is formed which fills up the pores of the shells, thus effectually excluding the oxygen of the air to the action of which decay is owing. This fact has been strikingly confirmed by a writer in a contemporary French pharmaceutical journal, who mentions that a sacristy near Lago Maggiore having been demolished, fresh eggs were discovered embedded in the old mortar of the building, where they had been placed probably three hundred years ago.



## CONSOLIDATED TEA.

---

MANY will recollect the compressed vegetables which rendered such excellent service during the period of the Crimean war, and at a later date, when sent into the market as surplus stores, were so largely consumed in many poor households."

Extracts, essences, and concentrated essences have become familiar in a hundred shapes, but it would seem that ingenuity has not exhausted itself upon such materials as meat and vegetables, but has achieved an equal success in its attempt to consolidate tea. A process, patented by Messrs. Goundry, of Tower Hill, is now in full operation, and housekeepers of economic disposition will be glad to know that the production just mentioned is made up in neat little tablets, each divided into eight equal portions, three small teaspoonfuls in each portion, thus showing at a glance the precise quantity that may be required for use.

As the tea will preserve its properties under any change of climate, and is so much less in bulk than that in ordinary use, it is likely to be held in high favour by travellers, officers of the army and navy, and others, whilst its increased strength and consequent cheapness may recommend it to the notice of the benevolent as a suitable means of charity.

The preparation of the tea in the tablet form furnishes a good guarantee against improper manipulation by dishonest dealers, satisfactory intelligence, undoubtedly, to all familiar with "Maloo Mixture" and kindred abominations.

The various experiments hitherto made in connection with essences and extracts of tea seem to point to the conclusion that, without moistening of the leaf, no satisfactory result can be attained.

The subject of Tea has received at all times the most careful consideration in the columns of this Journal, by means of which a topic of considerable importance has been illustrated in a variety of ways. The present article, having direct reference to an interesting phase of the question, may be considered in the light of a small contribution to the literature of "Tea."

S. E

## BOHEMIA BEAUTIFIED.

---

To live from hand to mouth; to manifest the utmost indifference for home, or rather for the garret thus erroneously entitled; to exist in a litter of dirt, a confusion of untidiness; to cook at irregular hours in the most sooty among ninepenny frying-pans; to eat with one's fingers from plates that have never been washed; to drink copiously the cheapest and most injurious beverages, and smoke the strongest tobaccos in the blackest of clays—such are the ideas entertained by the “respectable” classes of society as to the meaning of life in Bohemia. Nor is this conception altogether inaccurate. Bohemianism means emancipation from the laws of etiquette, a total disregard of what is considered proper or improper, and a sole desire to do that only which is the most convenient. Thus, with those who are naturally lazy, dirt and confusion become pleasing appendices to the incidents of daily life. But all Bohemia is not like this: there are refined Bohemians, and I am not at all satisfied but that these latter are not the true philosophers who have discovered the magic stone which renders life as pleasant as the hard circumstances of the day permit. The man who has acquired a certain amount of education and cultivation has unfortunately also simultaneously acquired other tastes which are less useful and far more cumbersome. He becomes impressed with the notion that there are certain things which he must not do, but which must be left for menials to accomplish. The man who knows every problem of Euclid, or has written the best novel of the season, would often consider himself lost if he opened a shilling cookery-book. If, therefore, he be poor, his case is hopeless; he falls into debt through the insatiate desire to “keep up appearances,” and his life is embittered and wasted because he is not rich enough to marry. It is at this point that Bohemia offers itself in the most attractive colours. It suggests good dinners cooked by oneself, instead of the bad ones obtained at ridiculous prices in respectable restaurants; it opens out a future free from the insolvable tailor's bill, or the absurd high rents charged for the smallest accommodation in aristocratic neighbourhoods, and there is ample opportunity to indulge refined tastes and enjoy the real and more substantial pleasures of life; but one example is worth pages of theorizing:—

Among my acquaintances I have visited frequently a young couple lately married, who live in Soho—the best of all quarters in London, indeed in all England, for Bohemian pursuits. They have but two rooms, situated, as they describe it, “on the first floor from the top,” and the rent is certainly not more than 10s. a week, though the apartments are spacious and airy. Were it within the province of this Journal, I could give a lengthy description of all the art and economy displayed in the furnishing of this modest retreat—how the one hung fresh paper on the walls, and painted the wainscoting with different and delicate tints; and how the other pinned up the white curtains with bright pink calico bows, which look like silk at a distance: on the wall are hung trophies denoting a life of travel and adventure, while the absence of costly furniture is compensated by a heap of books, papers, and documents, which testify to the hard reading of the couple. But these things I must put aside, and note in this model Bohemia only that which relates to the food department.

The two live on 30s. a week infinitely better than most people do on 3*l.*, 4*l.*, or even 5*l.*; but then they are firm believers in the axiom which says that if you want to have a thing well done you must do it yourself. Barring a trifle to the servant of the house for partial attendance, no money is spent for service. Our young Bohemians wait upon themselves. In the morning they succeed in making *café-au-lait* as good as any that can be obtained in Paris; indeed, the coffee is the *café des gourmets* which comes directly from France, and a French baker in Soho sends them every day a golden-coloured, long, light French loaf, with plenty of kissing-crust on. It is over the dinner, however, that real talent is displayed. Sometimes the sun of prosperity has shone on Bohemia, and then the daily meal becomes a festival which would make an alderman’s mouth water, had he sufficient refinement to appreciate the delicate though cheap viands placed on the table.

A little glass of real Vermouth obtained from Benti, the Italian public-house keeper close at hand, prepares the palate and sharpens the appetite. The cost of this rare and extravagant luxury for the two amounts to 6*d.* Then the finest slice of Lyons or Mortadella sausage is cut and eaten with olives, of which a retail supply can be bought at the French grocer’s for 3*d.* This preparatory course further heightens the appetite. But now ensues the greatest difficulty. It was summer when I last saw them, and a fire would render the apartments intolerable. Everything had therefore to be cooked on a small frying-pan over a little spirit-lamp; yet the chops, the steaks, the veal kidney and cutlets had a special

taste of their own, given to them by these amateur cooks. The smallest speck of green herb—tarragon, or chervil, appropriately dropped in a sauce of butter and the gravy drawn from the meat by the process of cooking, gives the whole a relish and refined taste which is something like civilisation when compared to the cannibalism of the half raw steak drawn from the English gridiron and eaten without any attempt to alter or modify its carnivorous flavour. The meat, however, is not the sole or chief point of the dinner; it is rather the opportunity or occasion given for the grouping of accompanying and appropriate vegetables. With mutton it is the haricot or the bean that brings out best the flavour of a *pré salé*. With beef, so as not to lose entirely the colour of one's nationality, the potato and vegetable marrow (in summer) are associated. Veal, however, is the favourite meat; it enjoys the special advantage of cheapness, for the cutlet can even at this moment be obtained for 1s. the pound, while morsels which are good for frying can, if skilfully chosen, be purchased at 10d., and the slices of lemon or tomatoes on which it is fried give it a cool refreshing taste specially appropriate and wholesome. Further, it may be urged that salad, without which a dinner is not complete, follows more agreeably after veal than after other meats.

It is with regard to salads especially that the advantage of living in Soho can best be appreciated. As a rule, when in season, lettuce or *Romaine*, large enough for two, only costs one penny, and seasoning herbs such as cannot be obtained in any other quarter is given in the bargain. This is generally composed of a sprig of chervil, parsley or fennel, a branch of tarragon and some spring onions. The whole cut very fine and mixed with pepper, salt, one spoonful of vinegar and three of oil is the simple but incomparable method of mixing a real French salad; but care must be taken to dry thoroughly every leaf of the lettuce with a cloth. Should this precaution be neglected, then of course the seasoning mixes with the water, becomes so diluted that it loses its flavour and often sinks to the bottom of the dish, leaving the tasteless salad leaves to their fate. Artichokes, also, which take too much time to boil in hot weather, are to be bought in Soho already cooked for a halfpenny extra each head, and they are pronounced by great epicures to be best cold with oil and vinegar. Then follows fruit and cheese; but not the dry hot Chester, which is rarely good when bought in retail. The Bohemians select some Camembert, which Louis XIV. surnamed the "cream of Kings"; or a two-penny slice of the "cheese of Princes," the *fromage de Brié*. If

some friend has sent a present of a bottle of wine, then it is the Roquefort cheese which brings out the *bouquet* in the most decisive manner. The French pastrycook is also close at hand, and here cakes can be obtained which recall the memory of the luscious sweets of Frascati, Guerre, Jullien, and others.

All this, however, applies to the days of prosperity. It is the great characteristic of Bohemianism that no income is certain; that a day of feasting is often succeeded by a week of starvation. But the force of Bohemianism lies in the fact that the season of dearth may come and go without leaving behind it a long trail of debts. If one day the best rump steak is fried in the most elaborate sauce, there is nothing to prevent a fire being lit the next day to stew together dried beans, rice, potatoes, onions, and a few odds and ends of meat at 5*d.* or 6*d.* a pound, so as to produce a hodge-podge which, though not altogether disagreeable to the palate, would suffice to feed a regiment at 4*d.* a head. The pleasures of such a life, the easy philosophy it engenders, are, in my opinion, unfortunately too little appreciated in England, and most people would rather die "keeping up appearances," than live a happy life in the unconventionality of Bohemia. It must be remembered, however, that in speaking of Bohemians, I do not mean people possessed of low tastes and mean devices; who are poor and have no ideas beyond their poverty; who have no ambition, no learning. No: I only allude to the Bohemian, as immortalised by Henry Murger in his *Vie de Bohème*.

ADOLPHE SMITH.

---

FOOD ANALYSTS.—Although, as it occurs to us, there may be many adulterators of food and drugs, there are at present very few chemists or analysts competent to detect deficiencies in the right, or additions of the wrong, material. Hence for the present is clearly indicated the wisdom of uniting several small areas or districts, and of employing a competent man at a fair scale of remuneration. Supply usually keeps pace with demand, and we may reasonably expect that the next generation will be provided with a sufficient number of skilled food analysts and medical officers of health.—*The Lancet*.

CENTRAL FOOD LABORATORIES.—The parishes of Holborn, St. Giles's, and Clerkenwell have decided to unite in the appointment of an analyst, having a central laboratory for the three districts. The idea is good, and is already being practically carried out in the South of London, where Dr. Muter, having been appointed and confirmed for Lambeth, Wandsworth, and St. George's, Southwark, is establishing a central laboratory at Kennington Cross. This laboratory will be entirely devoted to food analysis, and specially fitted for that purpose. Three assistants will be employed, together with a limited number of pupils, under Dr. Muter's direction, in the work of detection and research, such instruction being afforded, in addition to the course now given at the South London School of Chemistry and Pharmacy.

## MARKETS OF THE MONTH.

---

SEVERAL consecutive rises in the price of coal, since writing my last report (bringing the present value up to the extraordinary figure of 40s. per ton, according to the quotations on the coal exchange of yesterday's date), have necessarily, to a certain extent, influenced almost every branch of our commerce. The price quoted above has been even exceeded: at Brighton good household coals were said to be making 53s. per ton a few days back.\*

In the reports of yesterday's markets it is stated that 3,000 French and German sheep have been detained at Blackwall in consequence of disease being prevalent. A comparison of the quotations of the present month with those of the corresponding period last year, shows a considerable increase in the price of every quality of meat, excepting pork, which is 4*d.* per stone cheaper.

There is a steady demand for potatoes, both English and Foreign, and prices rule higher, especially for the latter, which are not received in sufficient quantity to supply the increasing demand; merchants are asking for orders in advance, and will only undertake to execute them in order of reception. Prices for English are from 140s. to 245s. per ton, for foreign from 7*l.* to 9*l.* per ton. Maltese new potatoes are just in, price 26s. per cwt.; forced kidneys are making 2s. 6*d.* per lb.; imitation new, or Dutch, 5*d.* per lb. Of the various sorts of foreign potatoes the Belgian kidneys and French round white are, perhaps, the best in quality.

The hop markets, both at home and abroad, are reported quiet; the corn market has also been quiet, but prices are firm for fine qualities. Foreign wheat has been in fair supply and moderate request at full prices.

The sugar market is very dull, prices are very low; good serviceable quality lump sugar, in titlers, 43s.; good moist, 30s. 6*d.* I would advise buyers to lay in stock at present prices. Fish has been dear. Soles have made from 1s. to 3s. per pair; lobsters have been scarce; salmon is making 1s. 10*d.* per lb., but it will be dearer again ere long; mackerel were tolerably plentiful at the beginning of the month, price 4*d.* to 6*d.* each; herrings, also, were plentiful, but both herrings and mackerel are now scarce; next month, however, we may look for regular supplies,

---

\* Prices within the last few days have been reduced.—ED.

Codfish is now going out of season; smelts and whittings are plentiful; also haddocks and brills; but turbot are scarce and dear; red mullet have arrived in considerable numbers during the past few weeks; oysters, eels, skate, plaice, ling, hake, crabs, codlings, and hallibut, complete the list of fish now on sale at Billingsgate.

Cauliflowers continue to be plentiful—the supply received this year from Cornwall is larger than it has ever been before; prices now are from 1s. 9d. to 4s. per dozen. Apples are very dear, good cooking are making from 12s. to 14s. per bushel. Rhubarb is plentiful, but a little mild weather will have the effect of vastly increasing all the supplies of Covent Garden. Prices now ruling are—for rhubarb, 11s. to 16s. per dozen bundles; seakale, from 15s. to 30s. per dozen bundles; asparagus, long, from 8s. to 9s., short, from 3s. 6d. to 4s. 6d. per bundle; cucumbers, from 3s. to 4s. each; French beans, from 3s. to 3s. 6d. per 100; spinach, 6s. per bushel; Brussels sprouts, 4s. 6d. per sieve; artichokes, 3s. 6d. per bushel; celery, from 14s. to 21s. per dozen; long radishes, 10d. per dozen; hothouse pines, 11s. to 12s. per lb.; hothouse grapes, 9s. to 11s. per lb.; blood oranges 12s., Tangerein and Mandarin 10s., per 110; lady apples, 2s. 3d. per box; pomeloes, from 3s. to 4s. 6d. per dozen; Messina lemons, from 17s. 6d. to 22s. per case; Palermo oranges—sweet 10s., sour from 10s. to 13s. per box; Seville sours, from 26s. to 28s. per half chest; Valencias, from 17s. 6d. to 21s. per case; St. Michaels, from 14s. to 22s. per box.

At Leadenhall prices are—for wild ducks, each, 2s. 3d.; widgeon, 2s. 3d.; teal, 1s. 9d.; pintails, 2s. 6d.; ptarmigan, 1s. 9d.; American grouse, 3s. 6d.; snipes, 1s. 3d.; golden plovers, 1s. 6d.; green plovers, 1s.; knots, 6d.; pigeons, 10d. to 1s.; Guinea fowls, 4s.; capons, 5s. 6d. to 7s. 6d.; pullets, 4s. 6d. to 5s. 6d.; fowls from 1s. 9d. to 4s.; turkeys, 1s. to 1s. 3d. per lb.; goslings, 9s. to 10s.; geese, 7s. to 10s.; ducklings, 4s. to 6s.; ducks, 3s. to 3s. 9d.; hares, 5s.; woodcocks, 4s.; larks, 3s. per dozen. Fresh eggs are now worth 11s. per 120, but are getting cheaper every week; foreign, from 7s. 6d. to 9s. 6d. Fresh butter, from 1s. 4d. to 1s. 8d. per lb., will very soon be much cheaper.

*February 18th, 1873.*

P. L. H.

**ERRATUM.**—In my last month's report the quotations given for beef and mutton were those of the Cattle Market for beasts and sheep; prices in the Dead Meat Market were, of course, lower. The statements regarding the coal trade might not at first sight appear consistent with the actual facts of the case; but at the date of writing (January 21st) the market had not displayed the extraordinary elasticity which appeared a few days later, and before the report was published.

## NOTES OF THE MONTH.

---

FISH is a diet equally welcome to rich and poor, and of all our food resources is the most lavishly distributed by a bountiful Providence ; yet its capture and sale have been from time immemorial hampered by more laws, restrictions, and foolish market customs than any other produce. At present it matters not to the poor Londoner that an unprecedented take of fish may have just occurred, as he reaps little or no benefit therefrom. The usual supply is forwarded to Billingsgate, and the price is maintained, whereas, during unpropitious weather, when the fishermen are unsuccessful, the price mounts to a famine figure. Surely, when piscatorial abundance appears, the indigent ought to derive some benefit from the profusion, instead of the surplus being retained until it decays and becomes useless except for manure. Mr. Philp has already sifted the question so exhaustively in his contribution to the *Food Journal*, of December 2, 1872, that we need only further remark that the unwise policy at present pursued, if persevered in, will certainly bring about its own punishment. Our fish factors, and others connected with the trade, should remember that many intelligent foreigners have recently been among us taking notes, and probably not the least observant were the Japanese Ambassadors. The paucity, intermittent nature, and dearness of our market exhibitions of fish cannot have escaped the critical observation of men accustomed in their own country to an abundant, constant, and cheap supply. It will yield a curious, but far from unlikely surprise, therefore, should the Japanese—at some future date, when the preservative processes now being applied to meat have been successfully adapted to fresh fish—prove formidable rivals to the fishing interest here. For the first time, the rivers of Japan teemed last year with salmon. Never before had this esteemed fish been seen or heard of there, and conjecture altogether failed to account for its presence. Meanwhile it is gratifying to learn that the tyranny of Billingsgate is likely soon to be neutralised by the approaching utilisation of Columbia Market.

---

If the operation of the Adulterations Act has not as yet been productive of so much improvement in the purity of our food and drink as might have been expected, it has led to a decided elevation, for a time, in the morality of a few wise grocers. A reply by



Mr. Lowe to a member of the trade, in answer to his inquiry whether the colouring matter on green tea, as received from China, was to be considered an adulteration or not, has been regarded as so ambiguous, that some of our retailers are said to have taken fright, and sent their stock of Hyson and Gunpowder to a well-known manipulator to be *uncoloured*.

---

DURING the protracted winter excursions of the Canadian hunters, in pursuit of fur-bearing animals, a degree of thirst is frequently experienced more agonising even than that endured by travellers over the scorching sands of Africa. This statement may seem a paradox until the facts are examined, which are briefly these:—The thirsty young sportsman, out from the woods and away from the chance of obtaining fuel, if foolish enough to eat the snow, will soon be disagreeably surprised to discover that his mouth and tongue become inflamed, and his desire for cooling liquid terribly increased; that his thirst, instead of being allayed, is fearfully augmented. Knowing this, all old hunters carry a little kettle in which the snow may be melted and boiled. If merely dissolved the draught will prove nauseous; but after ebullition, and when cooled in the surrounding snow, no cup from the most sequestered mountain-spring in the heat of summer, is more delightful or refreshing. Thus, a natural thirst arising from healthful exercise finds an equally natural and satisfactory assuagement. But some of our brewers, publicans, and cow-keepers, are evidently of opinion that thirst is a condition to be encouraged and cherished in man, as well as in one at least of the lower animals. By the recent Adulterations Act common salt is prohibited as an ingredient in the composition of beer; but having been formerly in use, and the taste of the public vitiated in consequence, it is not wonderful that complaints latterly arose from some consumers, that the pure beer now supplied was inferior to the old; resulting in many casks being returned to the brewers. Accordingly, influence has been brought to bear on Government, with the object of obtaining permission for the use of salt in malt liquors as before; an influence which, if successful, will, we need scarcely add, exercise a deplorable effect in defeating the wholesome action of the Act on this and other articles of drink and food. In the case of the cow-keepers, the creation of artificial thirst in their bovine property, with the view of increasing the supply of milk, will be much more difficult to arrest. On the occasion of a recent police prosecution a medical witness stated that “the milk in question, as

brought to him, had only water added to it—15 to 20 per cent. The average specific gravity of milk was 10·30. It varied very much. The average proportion of cream on genuine milk was 8. Cows were given potatoes, but he did not know what effect they had upon milk. *Salt*" (the italics are ours) "*was given them to make them thirsty; then, drinking more, they produced more milk, but it was weaker.*" It is truly sad to reflect that pure water, which, under either a frigid or tropical sky is justly regarded as one of the great gifts of Providence to man, should, in our favoured country—when employed by the cow-keeper and milkman—require to be disguised under the name of "Simpson." Equally melancholy is it to learn that both they and some of our brewers persist in the indulgence of an admiration and fondness for that homely crystal which, however useful and indispensable as a condiment, and necessary ingredient in healthful food, becomes a gross adulterant when used to create artificial thirst.

---

No sooner has cousin Jonathan recovered from the fright into which the epidemic among his draught horses plunged him, than a fresh source of alarm has arisen. His venison is now seriously threatened. It appears, from the report of a sportsman lately returned from a deer hunt on the Mexican frontier, that an epizootic is raging among those graceful animals. Numbers had been seen in the woods dead and dying, and in many of the herds dozens were scarcely able to travel. However, if our American relatives are likely for a time to be deprived of one luxury, they seem to have hit on another, probably from a hint gleaned from these pages a few months ago. Green turtle, we are informed by the *New Orleans Picayune*, is now being put up in hermetically sealed cans by a company at Rockport, Texas, and the venture is expected soon to rank with the growing and paying industries of the Gulf Coast.

---

PROBABLY one of the most unpromising articles of food which any enthusiast could think of introducing, with a view of tempting the British appetite, would be common clay. The great Humboldt long ago informed us that the Otomacs, a tribe of Indians living on the banks of the river Orinoco, select, with great care, an unctuous kind of potter's earth of a yellowish grey colour, which they knead into little balls, bake before a slow fire, and again moisten before eating. It is but fair, however, towards those clay-eaters to mention that it is only when the river gets too swollen to

permit their catching turtle and fishing with safety, that they consume this strange diet to any considerable extent. Nevertheless, the habit once acquired, those Indians—according to Fray Ramon Bueno, an intelligent monk and native of Madrid, who had lived among the Otomacs for twelve years—show such attachment to their clay balls that they use them in small quantities after a meal even when other food is plentiful. A similar propensity has been reported by Labillardière to exist among some of the natives of Java. In their villages he observed little square cakes of reddish earth sold for food, which, on being examined by Ehrenberg, proved to consist chiefly of deceased fresh water microscopic animals, and plants. Whether this practice of clay-eating serves any other purpose than merely to assuage hunger for a time, in the primitive tribes addicted to its use, we are not prepared to say; but we ought in future to look upon clay of any sort with a kindly eye if the new and strange use found for it proves a general success. It appears that fine pipe-clay in powder has been recently dusted over two patients suffering from confluent small-pox, with the happiest results. When the loathsome disease had run its course, the sufferers emerged from their earthy crust smooth and clean, and without having experienced the distracting irritation usually so prevalent during convalescence from that dire affliction.

---

OATMEAL, as an article of diet, or mingled with water as a cooling drink in the harvest field, although long popular in Scotland for its agreeable, nutritious, and wholesome properties, has in England been relegated chiefly to the fattening of cattle, and as an element in the feed of horses. As such it has come to be regarded with prejudice by our poorer classes of the south, who too often consider all ordinary food, outside the charmed quartette, bread, beef, bacon, and beer, unfit for the hard-working man. That this is the result of sheer ignorance there cannot be the least doubt, it being well known to scientific persons that oatmeal is distinguished for its richness in gluten, and is remarkable on account of its possessing more fat than any other of our cereals. The charge has no doubt been brought against it, that, when consumed alone, it is apt to prove scorbutic; but that such a charge is groundless we are assured by no less eminent an authority than Dr. Pereira. Although this cheap and nourishing form of human food has so long been neglected here, its merits, when taken as a cooling drink, are now recognised both on the Continent of Europe and in America. Wherever workmen are long exposed to intense heat, as in the

stoke-holes of steamers, especially in tropical waters; in iron foundries, or in glass works; the craving for liquor is constant and must be assuaged. Besides, the exhausting effect of excessive perspiration has to be considered. Beer is found to be too stimulating, and encourages heart disease; spirit under such circumstances becomes little else than poison, but oatmeal, in the proportion of two and a half pounds to about a couple of gallons of water, forms a drink which comes to the rescue of the thirsty toiler, and imparts a hygienic refreshment of which he sorely stands in need.

---

SOME practical hints on the keeping of fruits, with especial reference to apples, appeared in a recent number of the *Garden*, and, for the benefit of our readers, we make the following abstract:—One of the first principles of success, we are told, is coolness of temperature; if for long keeping, they should be kept as cool as possible. A little frost gradually let out does not seem to hurt; an uniform temperature of about 40° is recommended as best for the proper care of apples and similar fruits. There is no difficulty in keeping up this temperature in winter, but it is necessary that the cellar or fruit room should be warm enough to withstand the severest cold. If too much warmth should accumulate, the windows and doors should be opened immediately. The next consideration, and it is almost equally great as the first, is the hygrometric condition; too much moisture will cause mould and subsequent rotting, while in too dry an atmosphere the fruits will shrink and wither, thus injuring not only their appearance, but their quality. Success may be obtained by careful regulation and attention to these matters, but where there is much moisture, open bins will keep the fruit from either rotting or shrinking. So will open barrels where there is less moisture; but if closed tight in a damp room, the fruit in them is sure to spoil. If the air is quite dry, the barrel is the thing, either shut tight or merely covered over. We have known Spitzenbergs to come out in April, headed close, almost in the same condition that they went in; they were headed up in the autumn, put into a dry cellar, and left there till April untouched. Barrels covered up, or with a little air circulating, are recommended as the best means of storing, and it is always a safe plan to let the fruit sweat in outbuildings before being stored. We are further advised, "Never to touch the fruit after it is put in its winter quarters. If it is 'bound to rot,' as seems to be the case with some people's fruit, why it will rot—and it will rot the faster, and much faster, if you try to save it by sorting, but particularly by

wiping also. This removes the coat (an oily covering), which is a protection, and a decided one—one nature seems to have provided for that purpose. In the spring, sound fruit treated in this way is sure to last but a little while; when once rot has set in, the fruit should be used at once, what is good of it, but handle no faster than you use it.”

---

ANY feasible scheme which promises to economise fuel, especially in the homes of our hard-working poor during the more inclement months, is surely deserving of a trial. The struggle to obtain the bare necessities of life is already sufficiently arduous without the pinching care of eking out the scanty supply of coals and fire-wood so that they may suffice to cook the still scantier meal. It must be well known that in every cellar accumulations of worthless coal-dust keep on increasing until the eye of the thrifty housewife is distressed beyond measure as it rests on the dismal heap. There it reposes in a corner, apparently valueless, yet full of latent energy. She cannot burn it; no one will take it as a gift; and she fails to get rid of it, unless she pays the dustman handsomely for its removal. Elsewhere we call attention to a new and important sanitary use for clay; here is another, for which we are indebted to a correspondent of *Public Opinion*. He suggests the organisation of a brigade of industrious persons to travel from house to house with a supply of clay, and at a trifling expense, work up the coal dust into balls, which, when dry, would become a cheap and effective ally of the other fuel.

---

THE food of the people must at all times be a subject of paramount importance, and the continuance of the supply at a reasonable price one which may profitably occupy the attention of any philanthropist. To the parents of a lively family it may be interesting to learn that 500 years ago provision were even more expensive than they are at present, but we can scarcely expect them to derive much consolation from the antique fact. Nor is it a subject for self-congratulation to the members of our governing bodies that the articles of diet, such as meat, poultry, eggs, etc., are exactly those which, dear at present, were, in 1315, reduced by royal edict to a price then considered reasonable. It may be quite true that most of us take more animal food than is strictly necessary, owing, perhaps, in some measure, to modern refinements in cookery; at the same time it ought to be recollected that sustained mental exertion demands more nourishing food than

purely physical ; that a few consecutive hours of hard study increase the wear of the body to a greater extent than a whole day of muscular effort. But the most satisfactory reason why we eat more animal food than our ancestors is that the busy man of the nineteenth century requires to keep a reserve of force always ready, and capable of being instantly utilised when required. For long sustained plodding in the fields, for the physical activity necessary to the enjoyment of the out-door sports to which our forefathers were addicted, or for the monotonous life of the country shop-keeper, a farinaceous diet is best ; but to the busy bee of the great metropolitan hive plenty of animal food, as well as vegetables, is absolutely essential. In the one case the toil, if long and severe, is equitably distributed and wholly muscular ; in the other it may be all this one day, whilst the next may demand the instantaneous promptitude of thought and action so characteristic of the well trained sailor or soldier. The graceful herbivorous springbok of the African wastes can, in a long chase, easily outrun the fleetest of carnivori, but the hunting cheetah, whose food is blood and quivering flesh, must overtake the deer during the first sudden rush, or its prey escapes. Whilst the purely vegetable diet of the springbok enables it to put forth long and well sustained exertion, the animal food of the leopard fits it for concentrated and sudden effort. The moral deducible from these illustrations is obvious : Feed the people according to the exertion demanded ; the agricultural labourer and unintellectual country squire with bread and vegetables ; the sailor chiefly with animal nutriment ; and the brain-worker of the city with a copious supply of both.

---

HERE is a hint for the ladies, clipped from a South African paper :—"It is said that ordinary jam-fruit and sugar, which have been boiled together for some time, keeps better if the pots into which it is poured are tied up while hot. If the paper can act as a strainer, in the same way as cotton wool, it must be as people suppose. If one pot of jam is allowed to cool before being tied down, little germs will fall upon it from the air, and they will retain their vitality, because they will fall upon a cool substance ; they will be shut in by the paper, and will soon fall to work decomposing the fruit. If another pot, perfectly similar, be filled with a boiling hot mixture and immediately covered over, though, of course, some of the outside air must be shut in, any germs which are floating in it will be scalded, and in all probability destroyed, so that no decomposition can take place."

## DOMESTIC RECIPES.

---

*The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.*

---

### POT AU FEU.

Make up your fire so that it will burn for three hours without putting on coals. The fire must not be allowed to be too fierce. For the little *pot au feu* (for four persons) take 1½ lb. of meat, (rump or round of beef for choice); 10 pennyweights\* of bone, (about the quantity which is sent with the meat); 4 quarts of water, (filtered); 2 pennyweights of salt, (dry and well powdered); 10 ditto of carrots, 10 ditto of onions, 15 ditto of leeks, 1 ditto of celery, 1 ditto of cloves, 10 ditto of turnips, 2 ditto of parsnips. The cloves should be introduced into one of the onions.

For the greater *pot au feu* (for high days and holidays) take 3 lb. of meat, 1 lb. of bones, 6 quarts of water, 4 pennyweights of salt, 20 ditto of carrots, 20 ditto of onions, 30 ditto of leeks, 3 ditto of celery, 2 ditto of cloves, 20 ditto of turnips, 4 ditto of parsnips. Be careful that your beef is fresh. Stale and dry meat makes bad soup and worse *pot au feu*. Tie up your meat with a tape to keep it in shape. Smash the bones. Put the bones in the stewpan first, then the meat, then the water, *cold*. Put on the fire, add the salt and make your pot boil. As soon as the scum begins to rise, throw in half a pint of cold water for the great, and a gill for the small *pot au feu*, and skim with a perforated spoon. Do both three times. Wipe the edges of the pot carefully. Then add the vegetables as mentioned above, and as soon as the pot begins to boil put it on the side of the fire and let it simmer very gently five hours for the great *pot au feu*, and three hours for the smaller. Never let the boiling be rapid; never let it fail to simmer. Take out the meat and put it on a dish. Taste the soup, and if not salt enough add a little salt when in the tureen. Skim off the fat; strain the soup; add a little burnt sugar to colour it five minutes before serving, and send up the meat with the vegetables arranged round it. N.B.—This soup will serve as the stock for almost any soup that is desired.

---

### ORANGE MARMALADE.

Cut round the rind, then take it carefully off the orange; remove as much of the white skin as possible, and the pips; put them together in a basin, covering them with water; place the pulp separately in a basin; boil the rinds eight hours, changing the water every hour; then cut it into chips; put the pulp into a preserving pan with sugar and the water from the pips, which must be strained through a sieve; then place in the chips and boil altogether till it jellies.

---

### TO PRESERVE ORANGES WHOLE.

Rub the oranges with a nutmeg grater to take off the bright yellow; throw them into cold water; then tie them separately in muslin, and boil till quite tender. Take them out and cut a very small round piece at the stalk end; then lay the oranges on a cloth to drain, after which weigh them, and to every pound of fruit put 1 lb. of sugar, and to each pound of sugar three-quarters of a pint of water; let it boil and skim it well; then put in the oranges and the pieces; boil them an hour and a half; take them out and boil the syrup one hour and a quarter longer. Put the oranges into jars, putting some juice into each orange; place in the pieces; pour over the rest of the syrup, and tie the jars closely up.

---

\* By pennyweight is meant the weight of an ordinary bronze penny, which is the third part of an ounce.

THE  
FOOD JOURNAL.

---

INTERNATIONAL EXHIBITION, 1873.

---

THE Committees of Selection have done their work, and the buildings at South Kensington are once more overflowing with produce, machinery, and manufactured articles, which demand all the available space.

The British home and colonial markets will, of course, be most fully represented, but France, Denmark, Sweden, and other countries contribute largely, and we are glad to find that the number of machines and processes to be exhibited in action in the various subdivisions of the food group is large. Everyday operations as these are, few amongst us are acquainted with many of the processes which, in their ruder forms, at least, have been practised for centuries, and in a scientific and practical age like the present it is not fitting that we should remain ignorant on such subjects; besides, the processes of one branch of business often supply hints for those occupied in others, and in this sense, as well as from a general point of view, these practical exhibitions are of great value.

The cocoa, chocolate, coffee, and confectionery trades will supply many interesting processes, simple enough in principle, but not at all easy to carry out to perfection and with economy. Concentrated milk has become, within a few years, an article of large sale, and we trust it may be possible to show the process at the Exhibition; but, even should this not be attained, there are several operations of the secondary class which will certainly be exhibited, such, for instance, as the conversion of such milk into iced creams. Preserved provisions will be largely represented, and include some new forms which promise to be important; and the public will have an opportunity of learning the methods by which perishable commodities are prepared so as to bear the torrid heat of the Red Sea, or the intense cold of the Arctic circle.



The modes of panification, or converting flour into bread, pastry, biscuits, etc., the use of machinery for that purpose, and the employment of other materials, instead of yeast, to leaven the mass, have long occupied the attention of scientific minds, and their illustrations will have a general interest. Bread-making is far from being perfect yet, and it must be admitted that in some Great Britain is behind her neighbours in this important respects industry.

The value of ice in the keeping and conveying of animal and vegetable substances is well known, and ice safes and other refrigerators are pretty widely used by those who can afford the outlay, but they are being improved almost daily, and will certainly furnish some valuable illustrations to the Exhibition.

The preparation of tobacco, snuff, cigars, and cigarettes, by hand and by machinery, has never been shown at any former exhibition, and will, doubtless, attract attention; and we may add that the mechanical making of cigars, which will smoke, has only been perfected very recently.

The most prominent feature of the food group of the Exhibition will, doubtless, be the school of cookery, and we are very glad to note the fact that the committee has adhered to the principle of making it thoroughly popular. To quote the words of its last announcement—"The object is to give illustrations of cooking food in the best, simplest, and cheapest ways, suitable for persons with incomes from 50*l.* to 500*l.* a year. The utensils to be used are those which might be found in a house of 40*l.* a year rental." This is the only way of teaching anything of the kind to the general public; doubtless, great economy is to be obtained by the use of superior apparatus, but as this is out of the reach of the majority, its introduction in a school of popular cookery would clearly be a mistake. A lecture-room has been arranged which will hold about 120 persons, a thoroughly capable *chef* has been engaged to superintend the cooking, and explanations of the various processes will be given by a scientific officer of the department; a tasting room is provided in accordance with the arrangements which we referred to in our last number. We are not sanguine enough to suppose that after the Exhibition of this year we shall never gnash our teeth over good meat soddened, burnt, or smoked, or that every servant will boil potatoes as perfectly as an Irish cottar, but we are sure that the Exhibition Commission has undertaken a useful task, and that the thinking portion of the population will interest itself in the school of popular cookery.

---

## HORRORS OF OPIUM.

PART III.

---

CANDID inquiry having shown that the abuse of opium may be reckoned among the most cosmopolitan of vices to which human nature is addicted, it becomes a serious duty to ascertain in how far we, as a nation, are implicated in the development and continuance of the traffic in the pernicious drug. With this object in view, I shall ask the reader to follow the salient points in the history of the opium trade, from the period when the drug first became an article of import by foreigners residing in China. This occurred during the 18th century, under the auspices of the Portuguese. Previously to this event the natural increase of the Chinese population from 1711 to 1753 had been at the rate of six per cent. per annum, which numbered, according to the Chinese Repository, 28,605,716 on the former, and 103,050,060 at the latter date. But scarcely had the third quarter of the 18th century flown than the evil influence of the narcotic became apparent; so that the census of 1792, on the authority of Lord Macartney, showed an increase during 39 years of only two and a half per cent. per annum. As the opium habit spread and expanded into a vice, a further change for the worse took place. Accordingly, we find that in 1812, the period of the last reliable enumeration, the natural increase had dwindled to less than one per cent., the population then being 362,467,183.

For a considerable time after the introduction of foreign opium the Chinese consumption was comparatively limited, amounting to about 200 chests, or 28,000 lbs., per annum. In 1767 it had increased to 1,000 chests or 140,000 lbs. It was when the traffic had thus begun to assume tempting proportions that in 1773 the commercial eye of the Honourable East India Company rested with envy upon it, and the directors forthwith determined to make it their own. This the Company achieved, among other means, by forcing the growth of the poppy and production of opium on the ryots of India, especially those in the provinces of Bengal, Behar, Patna, and Benares, with such success, that during 70 years a

revenue was created which, in 1849, amounted to 3,309,637*l.*, and has since expanded to the enormous sum of 8,045,459*l.*, realised during the financial year of 1870-71 by the present Government.

Kea-King, grandfather of the present emperor of China, issued an edict in 1796 prohibiting the opium traffic, but his proclamation was couched in such offensive terms to both native dealers and foreign importers, and was accompanied by such oppressive measures, that it altogether failed in its object; consequently, the prosperity of the trade, instead of being retarded, increased. Again, in 1800, the same monarch attempted its repression with even greater severity, but the chief officials at Canton having succumbed to bribery, preferred to wink at the traffic and amass rapid fortunes during their limited period of office, rather than further the behests of their sovereign. As a natural result smuggling was undertaken and connived at, thus quickly increasing the sale of the drug to 3,000 chests, which, at the end of 20 years, reached 5,000 chests per annum. At this juncture a newly appointed Viceroy took the reins of power at Canton, and seemed inclined, at first, to inflict summary punishment upon the opium smugglers; but upon investigation, finding that mandarins of high rank were implicated, and that even the war junks appointed to blockade the opium clippers and guard the ports against the surreptitious landing of the drug, were actually the media by which a large portion of it was conveyed, his stern determination became transmuted into silent acquiescence, assisted, no doubt, by the alchemy of foreign gold. Following swiftly in the wake of this guilty arrangement, we find that in 1825 the importation of opium had risen to 9,621 chests, all of which were sold to the Chinese. In 1828, the repressive machinery of the Imperial Government was again set in motion, and an edict, unprecedented as to threats, fulminated against both the importation and use of the poison. Nevertheless, in defiance of all pains and penalties, the demand increased with such appalling strides, and was so entirely unchecked, that 11,000 chests were sold to the Chinese that year. Still onwards marched the fearful infatuation, British and other merchants eagerly supplying the pollution, whilst the Chinese as greedily purchased it; so that in 1835 the consumption was 27,000 chests, which cost its deluded votaries, in some instances, as high as 225*l.* per chest.

The year 1837 marks an epoch in the history of the opium traffic, inasmuch as a semi-official, and fairly reliable, attempt was made to ascertain the extent to which the vice of opium abuse had obtained a hold on the people. It was found that 3,000,000 of Chinese had become habitually addicted to the drug, and that the average

quantity smoked by each individual was *seventeen and a half grains* per day, showing a deplorable waste of money among this debauched multitude, apart from the irreparable moral and physical injury inflicted on the nation at large. This hideous revelation, instead of checking the traffic by spurring the local authorities to increased vigilance, had for a time quite a contrary effect; the restrictions on the Liutin depôt, among the islands at the mouth of the Canton river, fell into abeyance; fortunes were being made; the lust for the unhallowed commerce triumphed, and the fatal drug was now openly dealt in by all. Not only this, but the local authorities, resolving to profit by the opportunity, ordered a fleet of flat bottomed boats to be built, in which, in company with the 50 or 60 barges owned by Europeans, the opium was unblushingly conveyed to Canton and elsewhere. This carnival of commercial debauchery continued unrestrained until September, 1838, when several hostile encounters occurred between the opium craft and the custom's junks, in which lives were sacrificed and some seizures of opium effected. But the result was so evanescent, that during the following month smuggling, from the islands of Hainan and Chusan, became brisker than ever, and at the end of October it was found that 2,300 chests of opium had changed hands and gone into consumption during the month.

The crisis, long impending, was now about to culminate, urged to a point, it is believed, by some of the high mandarins who, during the mania, pretended their share of the plunder amounted to less than they expected. A pretext for a quarrel with the European merchants soon presented itself: opium was detected in the course of transit to a foreign hong; it was seized; the traffic was abruptly stopped; inferior custom's officers were punished; and, in order to strike terror into the foreign community, one poor wretch, Ho-han-Kin, was, notwithstanding the remonstrances of the English residents and traders, executed at Canton, on the 27th February, 1839.

It is but fair, however, towards the more enlightened and better thinking class of Chinese statesmen to record that, previous to the wild license which characterised the saturnalia just described, they had memorialised the emperor on the subject of legalising a traffic they felt they were powerless to demolish, by suggesting steps calculated to restrain the consumption of opium. Their proposals did not embody the idea of a tax on the drug for the sake of revenue; theirs was not an impost with the view of sanctioning or encouraging a vicious habit; but it was a measure having for its direct and deliberate purpose the restriction and ultimate suppression, by

constitutional means, of the use of opium altogether. They represented that a noxious evil was presented to their immediate and serious consideration: a pernicious and blighting custom which they endeavoured to grapple with and, if possible, overcome.

Their representations, united to the interested clamours of the mandarins, whose cupidity had been excited but not satiated, had the effect at length of arousing the torpid government to an act which it had soon reason to regret. One clause in the memorial was couched as follows:—

“If the government officers, the literati, and the military, be still restrained by regulations, and not suffered to inhale the drug, and if offenders among these classes be immediately dismissed from the public service, while those of the common people, who purchase the drug and smoke it are not at all interfered with, all will plainly see that those who indulge their depraved appetites are the victims of their own self-sacrificing folly: persons who are incapable of ranking among the capped and belted men of distinction and learning. If, in this way, shame be once aroused, strenuous exertion and self-improvement will be the result, for the principles of reform are founded on shame and remorse; nor will the dignity of government be at all lowered by the proposed measure. Should your majesty sanction the repeal of the now-existing restrictions, it will in truth be attended with advantage both to the arrangements of the government, and the well-being of the people.”

Unfortunately for his people, for humanity in general, and for the already tarnished lustre of western civilisation, instead of acting on this advice, the Emperor, in 1839, dispatched High Commissioner Lin to Canton, where he arrived armed with full imperial authority to “summarily crush and obliterate the evil traffic.” This officer has been described as a man of vigorous intellect, and possessed of an imperious and decisive will; consequently, it is not surprising that on his arrival his first act was to demand the unconditional surrender, within three days, of all opium in the custody of aliens; a pledge from them that they would cease to import the drug; the immediate departure from China of “the sixteen depraved foreigners,” as he more forcibly than politely designated the chief merchants implicated; and the extradition of the assassins of Lin-Wahe, a native who had perished during a brawl. That there might be no mistake as to his fixed determination, Lin added in a supplementary edict:—

“I, the commissioner, am sworn on behalf of the Celestial Empire to remove utterly this root of misery; nor will I let the foreign vessels have any offshoot left or the evil to bud forth again.”

Unflinching as his attitude was, and superior to avarice as he subsequently proved himself to be, this sturdy mandarin had arrived on the scene just forty years too late. Although he eventually suc-

ceeded in forcing acquiescence to his chief demand, his promptitude and unwavering decision only added ten-fold stimulus to the atrocious traffic, and precipitated a disastrous war.

The stock of opium demanded not being forthcoming, Captain Elliot and other British officials, along with over 200 European merchants, were kept in a state of siege at Canton for about seven weeks. Food and water were denied; latterly the rivulets and bread baked for foreigners were alleged to have been poisoned; lives were hourly threatened; and at length provisions could only be obtained during desperate sorties made by the besieged. In this emergency Captain Elliot yielded, and 20,283 chests, containing about 2,839,620 lbs. of opium were surrendered to the Chinese authorities. It was at this juncture that the sterling honesty and uncompromising firmness of Commissioner Lin shone out in brilliant relief, as contrasted with the loose morality and shuffling policy of most of the Chinese officials who either preceded or followed him. The sacrifice of nearly 3,000,000 lbs. weight of opium by an Asiatic seemed so utterly improbable that doubts were freely expressed by the Europeans on the spot whether the seizure would be destroyed at all. On the contrary, it was currently believed and admitted that the Commissioner was at once a remarkably clever and lucky fellow, having thus, by a bold stroke, secured the means of enriching himself and his kindred for ever. Believing equally expectation and prediction the opium was removed to Chun-hów, immersed in water mixed with lime and salt, and after the lapse of 20 days, when the whole had become a mass of fetid mud, was allowed to escape into the river. So particular were the local authorities, acting under the fear of the terrible Lin, in watching the coolies engaged in the work of subversion, that one wretched culprit was strangled on the ground for concealing a minute portion of the drug about his person. Nor was this all. Lin proceeded against the officials of Canton with unrelenting severity: even the Viceroy himself not being spared. Such inflexible policy, as might have been anticipated, produced among the despoiled merchants, especially in the breasts of the "sixteen depraved foreigners," no other feelings than intense animosity, which led up to and culminated in the opium war of 1840.

WM. COCHRAN.

[ TO BE CONTINUED ]

## HINTS ON THE PACKING AND CARRIAGE OF FRUIT.\*

---

FRUITS destined for carriage should be handled with the greatest care both in gathering and in packing, so that they may not suffer on the way. They should not be *too* ripe; and those that have been bruised or touched by insects should be set aside, as they would decay and spoil the rest. They should be carefully picked over one by one; each one being cleansed at the same time with a soft brush, except in the case of fruit covered with *bloom*, like plums or black grapes, or those which are too soft, as raspberries and mulberries. The fruit should be picked a day or two in advance, and laid in a dry airy place to get rid of a portion of its superabundant humidity. The materials used in packing, to prevent the fruit from rubbing, should also be thoroughly dried. It is scarcely necessary to add, that, in gathering, the fruit should be gently laid in a large basket with a bed of soft moss covered with tissue paper in the bottom; that they should not be allowed to touch, and must not be heaped in layers.

The boxes in which the fruit is to travel must not be too large, as it is an essential condition that it should be packed closely enough to prevent the least shaking, an arrangement which would render the boxes unmanageably heavy were their dimensions too great. When several sorts of fruit are to be sent together, as peaches, raspberries, cherries, grapes, etc., there should be separate cases for each, unless the quantity be too small, when they may be laid on false bottoms in a single box.

The boxes should possess all requisite solidity according to the length of the journey and the treatment they are likely to experience.

They should be made of some soft wood other than deal, as, generally speaking, there is a certain resinous odour about the latter which might affect the natural perfume of the fruit. For constant use we would recommend boxes with hinges and locks, of which the consignor and consignee should possess keys. In winter time, the fruit should be protected from frost by giving the boxes an outside coating of moss or straw, at least 2½ in. or 3 in. in thickness, and kept in its place by matting.

---

\* From the Flemish of M. Pynaert of the School of Horticulture annexed to the Botanic Gardens at Ghent.

Peaches picked two or three days before they are perfectly ripe will well stand a journey of several days' duration. Stone-peaches and nectarines should be quite ripe when they are gathered, and will last longer than peaches. In packing each fruit should be done up separately in tissue paper. The fruit should then be laid on a bed of bran or good, dry, white sawdust, from which the finer dust has been sifted. They should be set about half an inch apart each way, and covered up with another layer of bran or sawdust, which should be worked into all the interstices. Not more than three, or at most four, layers should be thus superposed. A gentle shaking should be given to the box from time to time, during packing, so as to settle the contents, and leave no crevices unfilled. The box should never be more than 19 in. long, 13 in. wide, and 11 in. deep. A box of this size will hold about five dozen peaches.

When the quantity of peaches to be sent is considerable, and, more especially, in cases where a supply has to be sent regularly to long distances, the packing must be performed more completely. Each box should be formed with a number of false bottoms, so that the fruit may be placed in separate layers with spaces of 3 in. or  $3\frac{1}{2}$  in. between. The false bottoms rest on ledges fixed to the interior sides of the box, and the intermediate spaces are divided chequerwise into small squares of 3 in. or  $3\frac{1}{2}$  in. inside, each of which receives one peach, wrapped up in tissue paper, and carefully packed in its place with tow or bran.

Apricots and plums, not being so delicate as peaches, require less care. They are wrapped in tissue paper, and packed in layers with dry moss between the layers. When the apricots are large, they should be packed like peaches, and this should always be done when they have to travel long distances. Plums will keep for some time—certain varieties more especially. Apricots will also keep longer than peaches.

Cherries should first be washed in a basin of water with a very soft brush; they should then be wiped dry, laid between two sheets of tissue paper, and packed in alternate layers with tow.

Grapes may be packed like peaches. The bran or sawdust settling down between the fruit prevents injury from rubbing, but it has the disadvantage of always adhering to the latter to a greater or less extent. When the fruit is perfectly dry it may be blown off, or the fruit may be done up in tissue paper. When grapes are sent by rail or steamer, and the distance is not very great, as from Paris to Brussels, it is generally considered sufficient to pack them in layers, two or three in a box, with a little moss between.

Raspberries will not stand a longer journey than a couple of



days. They should be ripe, but not over-ripe, and should be packed immediately after gathering. They are packed in tow like cherries, being first wrapped separately in tissue paper. They should not be in more than four or five layers, as they heat readily.

The same remark applies to mulberries and gooseberries; but the latter are less delicate, and will keep longer. Figs will keep for some length of time. They should be packed in dry moss.

H. M. CHICHESTER.

**FRUIT PRESERVATION.**—A correspondent writes :—"You ask in your February number for information as to the best liquid preservative for fruits in their green state. Finding that the query remains unanswered in your March number, I will venture to inform you, that, in my opinion, there are various liquid preservatives for fruit, which are all of them 'best' for the purposes to which the fruit so preserved is adapted. Fruit may be preserved in bottles or jars, with spirit and sugar, for dessert, or in strong syrup alone for the same purpose. For garnish, *i.e.*, for decoration of dishes, fruit may be preserved in salt and water. For culinary purposes fruit may be preserved by being placed in jars, baked, and tied down, and will keep well in a cool, dry place, or it may be preserved in bottles, the bottles, with the fruit in them, being placed in cold water up to their necks on the fire. But the best method of all is to preserve fruit in weak syrup; by this latter method a stock of fruit is obtained which may be used for almost any purpose, and, therefore, on the whole, I think I may say that weak syrup is the best liquid preservative for fruits in their green state."

**A NEW KIND OF GAME**, as our neighbours call it, has made its appearance in the Paris markets—namely, the marmot, the little burrowing creature carried about the streets of Europe by the poor Piedmontese. The marmot has long been eaten in Italy, and the flesh is even admitted to the tables of the rich and luxurious Milanese. Its Latin name (*Mus Alpinus*) is not a recommendation to favour, except, perhaps, to M. St. Hilaire and some other French *gourmets*, who declare rat to be the finest eating in the world, and mice very delicate. In France he who introduces a new dish, and still more a new meat, is regarded as a true benefactor to his species, and marmot, of course, will be the rage for a time. The meat is said to have somewhat the flavour of wild boar, which again is no great recommendation, and we are warned that there is a certain rather strong flavour about it which demands highly spiced sauce. Already, we are told, the great artists of the lower regions have invented a piquant sauce for this game—"Mais c'est à Paris que la marmotte recevra son baptême de célébrité culinaire." The marmot is not common in England, but our cooks might try their hand on its cousin, the guinea pig; guinea pork, too, sounds better than Alpine mouse.

**THE statistics of production, consumption, or traffic in the natural products of our own country are matters not generally thought of, but which, nevertheless, contain facts of great interest; thus we learn from a contemporary that 911 tons of brocoli, the growth of West Cornwall, were conveyed by rail to London and elsewhere, over the Cornwall line, in the space of six weeks, ending on the 12th of January. In the corresponding period of last year the quantity amounted to no more than 168 tons. The absence of frost may be assigned as the reason for the increased successful produce of the us to the cultivators, and beneficial to the railways.**

## OUR MEAT SUPPLY.

PART IV.

---

WE have seen, I think, pretty clearly, that the difficulty of increasing our meat supply by the importation of *live* cattle lies in the conditions of transport. Wherever there is a sea passage to be undergone, as the trade is at present conducted, there will always be disease, and disease brings with it such loss of food as wholly neutralises the benefit derived from the importation.

The point to which I wish now to address myself is to show that if, by improved conditions of transport, we could get our store stock—for which we must depend largely upon Ireland—in a healthy state, the development of our home supply would be more than equivalent to the total value of our importations from abroad. It is here that the real strength of scientific farming will come into play. I believe that we have yet to see a very great increase of the practice of stall feeding, and though artists may lament the loss of the picturesque appearance of many-coloured oxen dotting the green background, there is not much doubt that giving up an acre of ground to the maintenance of an individual animal for the summer half of the year is a waste of power. The steam plough is the great agricultural reformer of the day, and everything leads one to believe that the pastoral age will ere long be succeeded by an era of roots and farm-buildings. The agricultural labour difficulty seems, at first sight, to have a reverse tendency, and to lead to the seeding down of arable land, and its conversion into pasture as requiring less labour, but a little reflection will show that this is a short-sighted policy, whilst the more profitable high-pressure farming will afford the labourer better wages at the same time that it increases our meat supply, and thus disposes of two troublesome questions at once.

Be that, however, as it may, and leaving the future to take care of its own matters, the British farmer is quite equal to the situation at present, and if he could but have his flocks and herds relieved of this ruinous disease he would be more than able to make up all the help which we now get, at such a risk, from foreign cattle. Let us put this to the test of a few figures. According to the

Board of Trade returns the following were our importations of foreign cattle in the year 1872 :—

172,902 cattle valued at .. .. .	£2,674,539
809,817 sheep and lambs .. .. .	1,666,857
16,101 pigs .. .. .	51,582

Making a total of 4,392,978*l*. Now let us convert these animals into meat, taking the *Chamber of Agriculture Journal's* estimate for our guide, which puts the foreign cattle at 500 lbs., the sheep and lambs taken together at 50 lbs., and the pigs at 90 lbs. each. We get then for our money—

172,902 at 500 lbs. =	86,451,000 lbs. beef.
809,817 at 50 lbs. =	40,490,850 lbs. mutton.
16,101 at 90 lbs. =	1,449,090 lbs. pork.
<hr/>	
128,390,940 lbs. meat.	

And yet if we could have kept our home stock free from disease—the disease, remember, being by hypothesis due to importation—we should have obtained a far larger supply from our own flocks and herds. Turning back to the *Food Journal*, for December last, it will be seen that the census of our live stock in Great Britain for the year 1872 showed an increase over 1871 of 286,347 cattle, 803,295 sheep, and 285,288 pigs. Turning these into meat in the same way, but allowing for the heavier weight of English stock, we *ought* to have had the following addition to our food, assuming that the whole increment in the one case, and the whole importation in the other is so much clear gain to the butcher :—

286,347 at 560 lbs. =	160,354,320 lbs. beef.
803,295 at 56 lbs. =	44,984,520 lbs. mutton.
285,288 at 100 lbs. =	28,528,800 lbs. pork.
<hr/>	
233,867,640 lbs. meat.	

The consumer would, therefore, have gained 95,476,700 lbs. of meat, and 4,392,978*l*. would have gone into British instead of into foreign pockets, if not a single foreign animal had been allowed to land alive upon our shores, *if*—and there is much virtue in an “if”—we could only have kept our home stock free from disease.

Having said so much upon the subject in three former articles, I am not likely to have overlooked the fact that the disease was not due entirely, or even chiefly, to *foreign* stock. That is true, and I admit readily that to have had no importation from abroad, and yet to have had disease at home all the same, would have thrown still greater pressure on the meat market. Of course that is so; but the point for which I am now arguing is that it will answer our purpose better to direct our attention to getting our home stock healthy rather than to increase our importations from

abroad. The recuperative power which our flocks and herds showed last year, in spite of the extensive prevalence of disease, encourages us to hope for the best. But there is no reason why we should deny ourselves the advantage of whatever help we can get from abroad. We should be thankful enough to double our meat supply, if possible, so that it might be not only abundant as to quantity, but also cheap as to price. It may be thought, perhaps, that the latter part of the sentence is superfluous, for if it were abundant in quantity, it would, as a matter of course, by the mere natural operation of the law of demand and supply, be cheap also; but that is not so. It would lead me too far astray to enter into this point just now; but those who are conversant with the practical details of the production of meat will bear me out when I say that if, from an increased demand, the price of meat should run up to 2s. per lb. (which Heaven forbid!), there would be a vastly larger supply forthcoming at *that* price which is not producible now; and directly the price fell in consequence of that abundance—as political economy would lead us to assume—the old cause would come into operation again, and shut off the supply. So that it is not superfluous to say that meat should be both abundant *and* cheap.

But it is impossible to over-rate the benefit that would arise to the health of the poorer inhabitants of our crowded towns, if they were able to obtain more animal food of a good quality; for to them meat is health and life. The agricultural labourer, breathing the pure fresh air of the country, can maintain his strength on a farinaceous and vegetable diet, with the help of a bit of bacon; but the highly carbonised air of crowded courts and narrow alleys, and all the other depressing influences of town life to the poor, render a more animalised diet absolutely essential.

By all means, then, let us have all the meat we can get, only let us endeavour to obtain it without destroying by disease as much as we add by importation. To do this it is only necessary to import our meat as *meat*, not as live stock; and this important point once solved, what vast stores are opened to us.

This formed a prominent topic in the address that was given by Major-General Wilmot, at the opening of the present session of the Society of Arts, on the 20th November last. So long ago as 1844 attention was called to the fact that beef and mutton were mere refuse in Australia. A leg of mutton could be bought for 6d., and quite a barrow-load of the inferior joints for the same money; or, if sixpences were scarce, the meat might be had for the mere trouble of fetching. Sheep and oxen were, in fact, valued for

their fat, their skins, even their bones, rather than for the meat that was on them. Some slight attempt was made to rescue a portion of this food from waste by reducing it to solid portable soup; but the experiment was not very successful, owing to a burnt flavour which attached to the concentrated product. This was in great measure got rid of by the use of the water-bath; but the essence only met with very limited acceptance. The autocrats of the kitchen are all-powerful, and not wholly free from prejudices. Some eight years later, Mr. Harry Chester, in opening the 100th Session of the Society of Arts, brought the subject up again, and asked if something could not be done to rescue some of this food from wholesale destruction.

In 1863-4 a prize of 70*l.*, which had been originally placed at the disposal of the council for another purpose by Sir W. C. Trevelyan, Bart., but not awarded as proposed, was offered, with the Society's medal, "for the discovery of a process for preserving fresh meat, better than by any method hitherto employed, applicable to the preservation of meat in countries where it is now almost valueless, so as to render it an article of commerce, and available for stores on shipboard."

This prize, now increased to 100*l.* by a further donation of 30*l.* from Sir W. C. Trevelyan (with the Society's gold medal added), is still offered; for the tinned meats from Australia, greatly as they have added to our food resources, have not fulfilled the condition of preserving the meat "fresh," *i.e.*, available for cooking at home, and are, therefore, not considered to have solved "the great and important problem of fully utilising the vast herds and flocks now almost wasted in other parts of the world."

We may form some little idea of what that waste of food is—food which we should be so thankful for at home—from the fact that in the "graserias" of Buenos Ayres, of which there are about a hundred, 60,000 sheep are boiled down in a day; the number thus destroyed amounting to from 8,000,000 to 10,000,000 in the year, or about a third of the entire stock of the United Kingdom! Besides these "graserias" there are 16 or 17 "saladeros," each capable of boiling down 1,000 head of cattle daily. The beef is not "first-chop," certainly, but it might soon be made so if fattening cattle became a remunerative undertaking. An attempt was made a year or two ago to bring the cattle to England alive, but nothing came of it, and it is to be hoped that it will never be renewed.

Then, again, what stores of food we have in the great grazing districts of the United States, where, with only a few millions more population—about 38,000,000 to our 32,000,000—they have three

times as many cattle as we have, and about half as many more sheep. Texas alone has at least 4,000,000 head of cattle roaming in the luxuriant pastures of the vast plains that are watered by the Rio Grande, the Colorado, the Brazos, the Roxo, and the smaller streams; they are owned by ranch-men, whose herds number sometimes 100,000, and occasionally even 200,000 head. Their stock, too, is rapidly increasing, for whilst they have already more than the whole of England, the population of Texas, with its quarter of a million of square miles of area does not exceed 800,000. They rear annually more than 750,000 calves. Then there are all the great grazing districts of Colorado, Kansas, Nebraska, and Wyoming.

A correspondent of the *Times* drew attention to this vast storehouse of food, a few weeks ago, and suggested that the American railways would convey these cattle without loss of condition (doubtful—very) to New York, Quebec, or Boston; and that a ten days' voyage to England would offer no insuperable obstacle, as there would be no tropical heat to encounter, such as that which caused the failure of the attempt to bring cattle from Buenos Ayres. Of so wild a scheme I can only say, "Heaven preserve us from importing live cattle from Texas!" We might just as well go at once to the Steppes of Russia, the home of eternal rinderpest; for whether it be from the very luxuriance of their pastures, the heat, or the large masses which herd together, it is well known that Texan cattle are a feverish-blooded breed, singularly ill adapted to bear the close unhealthy atmosphere of a cattle steamer. If we cannot bring over our own hardy stock from Ireland, a few hours' run, without generating disease, how is it likely that we could bring these hot-blooded animals across the Atlantic? In fact, if we wished to set up a permanent supply of rinderpest, I know no place in the world so well able to supply us as Texas. Let Mr. Henley do what he can with his meat pressure process to squeeze them into available food and we shall consider him a public benefactor, but to attempt to import them alive would be the height of folly.

So much has been said in the *Food Journal* on preserved meat that it appears unnecessary to pursue the subject in that direction, though it plays a very important part, indeed, in the question of "Our Meat Supply."

GEORGE WALTERS.

---

## THE SALMON FISHERIES OF ENGLAND AND WALES.

---

ANYTHING throwing light on the question of our food supplies, and any efforts tending to increase our resources, will always be welcome, and the Twelfth Annual Report of the Inspectors of Salmon Fisheries appears at an opportune moment. The preamble of the Salmon Acts, which the Inspectors are appointed to carry out, recites that their object is "to increase the food of the people." This, Mr. Buckland assures us, is the chief aim of himself and his colleague, Mr. Walpole.

How far these efforts are successful they annually tell us in their Parliamentary Report. One test is to be found in the price of salmon in the market. On this point Mr. Buckland writes:—

"The present price of salmon in the market is unusually low; a well-known and influential retail dealer in salmon has kindly given me from his books the wholesale prices of salmon per lb. during the month of February:—Feb. 4, 3s. 6d.; Feb. 10, 2s. 4d.; Feb. 11, 2s. 4d.; Feb. 12, 2s. 6d.; Feb. 17, 1s. 10d.; Feb. 18, 1s. 9d.; Feb. 21, 1s. 6d.; Feb. 24, 1s. 4d.; Feb. 25, 1s. 6d.; Feb. 26, 1s. 6d.

"For sundry reasons, commercial or otherwise, which are not unusual, and operate every year as the season advances, it is not supposed that these prices will remain at their present level.

"The above figures refer to salmon of the very first brand, and the gentleman who has given me this information tells me that the low price of salmon in February this year is a most remarkable fact. In his long experience he never knew February salmon so cheap before as they have been in 1873."

The extraordinarily heavy floods that prevailed throughout last year have operated to a certain extent prejudicially on the salmon fisheries; the high water prevented the continual use of nets, and, consequently, fewer salmon were in many cases captured. In the scanty returns which have been received on this point the river Tyne heads the list with a record of 129,100 salmon captured; the yield of the Dee is valued at 3,000*l.* a-year; 8,000 salmon were caught in the Ribble; 6,500 to 9,000 in the Severn; 5,000 in the Usk, that celebrated angling river. Altogether the principal rivers seem to have held their own, and where a decreased take is apparent, the present loss is compensated for by the prospect of future increase on account of the vast number of fish that have passed up to the spawning beds.

"Protected," says Mr. Buckland, "by the heavy floods against the nets, especially in the estuaries, the fish have had a year of jubilee, and the spawning beds have never before been so well stocked with breeding fish as they have been during the past season."

Mr. Buckland gives a table of the number of boxes of salmon sold throughout the year in Billingsgate market, by which it appears that a total of 33,300 boxes, or 1,665 tons, against 35,275 boxes, or 1,764 tons in 1871, were delivered there from all sources, home and foreign. Of these, 1,330 boxes are returned as English-bred salmon—a decrease of 1,623 boxes as against 1871. But besides London, most of the principal towns on the banks of our salmon rivers are supplied with this fish immediately from their own waters, many neighbourhoods consuming the whole of their local produce.

The salmon have required little external aid in their progress up the rivers. The weirs which so frequently bar their passage have been reduced to a minimum, and both the inspectors have very little to report in the way of pass building. The high state of the rivers rendered such a work both unnecessary and impossible. Only five “passes” have been erected during the year. But the chief artificial obstructions to the proper development of the fisheries seem to be in some of the machinery of the Acts. Power is wanted to regulate the times during which it is legal to catch salmon in different rivers. Thus, although in the Coquet—where the bull-trout have gained the ascendancy over the salmon proper—the fishing season was specially extended to the end of the year for the purpose of killing off as many as possible of the inferior fish, no power is given to sell the fish so caught. On this curious point Mr. Walpole writes:—

“It is now clear that the time has arrived that the experiment (of exterminating the bull-trout and restoring the salmon) must be abandoned; for four years the law has been strained to clear the river of bull-trout, and they are nearly as abundant as they were before the experiment began. It seems, therefore, time to submit to the inexorable logic of facts, and to abandon the Coquet to the bull-trout which, though inferior to salmon, are, commercially speaking, little less valuable.

“The experiments, however, which have been conducted on the Coquet, have decidedly proved the utter absurdity of the existing law of close season. In the four years ending 1871, 70,397 trout were destroyed, and of these only 8,708 were taken before 31st August. If, then, the existing law of close season is to be preserved, the proprietors of the Coquet must be condemned to reap only one-eighth of the crop which they might apparently gather in without any serious diminution in the stock of fish in the river. What would be thought of a farmer who only sent one-eighth of his stock annually to market? Yet the proprietors of the Coquet are not even permitted to kill one-eighth of their stock, but only one-eighth of that portion which they would have been enabled to catch in an extended open season. If the Coquet is to be abandoned to bull-trout, the proprietors have a right to insist on such a permanent modification of the close season as shall enable them to catch a legitimate proportion of the fish in the river.”

Again, in other rivers, the law forbids the use of a net with a



mesh small enough to catch the only fish in them which are worth catching—such as the salmon peal of Devonshire, and the sewin of Wales; these fish pass through the legal mesh, and the public are thus deprived of this source of food. Mr. Walpole gives an interesting description of the different kinds of engines and instruments used in fishing for salmon, and shows that fixed engines, which were made illegal in this country by the Act of 1861, have now almost disappeared, while more destructive movable nets have taken their place. He thinks that an amendment in the law is required to regulate these nets, and to enable the Local Boards of Conservators to make such regulations on this point, as well as on the questions of close seasons, etc., as will suit their particular rivers. Such advice, on the evidence, seems sound enough, and we hope that his suggestions which he “has the satisfaction of knowing have met with nearly complete approval from two successive Parliamentary Committees,” will be adopted—and that soon. There appears a prospect of an amended Act this session, and we trust that Parliament will make such enactments as shall tend to place the future prosperity of our fisheries on a more sound basis than ever. Mr. Buckland assures us that,

“On the whole, and passing in review not only the facts given in his report, but also the results of his personal examination and private correspondence, during the past year, he is happy to be able to report that the salmon fisheries in general are at present in a prosperous condition, and promise better than ever for the future.”

No one is better able to express such an opinion, and we may safely leave “the future” in the hands of himself and his able colleague.

---

**OUR FOREIGN MEAT SUPPLY.**—In the year 1872 the import of bacon into the United Kingdom increased to the enormous quantity of 1,841,392 cwts., of the value of 3,773,665*l.*, and the import of hams to 155,353 cwts., of the value of 402,964*l.* The other imports of pork, almost all salted, show a decrease to 218,383 cwts., of the value of 450,185*l.* The import of beef, chiefly salted, also declined in 1872 to 228,803 cwts., of the value of 341,122*l.* The import of meat “preserved” otherwise than by salting continues to show a large increase, and amounted in 1872 to 352,023 cwts., of the value of 906,680*l.*, and the import of other meat unenumerated, salted or fresh, amounted to 55,526 cwts., of the value of 138,645*l.* The import of live animals in 1872 was not equal to that of the preceding year. The number of oxen imported declined from 135,133 in 1871 to 110,537 in 1872; cows, from 73,339 to 28,840; calves, from 40,139 to 33,525; sheep and lambs, from 916,799 to 809,817; swine, from 85,622 to only 16,101. The declared value of the animals imported in 1872 was 4,392,978*l.*—viz., oxen, 2,131,461*l.*; cows, 430,237*l.*; calves, 112,841*l.*; sheep and lambs, 1,666,857*l.*; swine, 51,582*l.*

## GOOD MEN'S TABLES.

## THE TABLE OF THOMAS WALKER "THE ORIGINAL."

HE would give valuable and, above all, disinterested advice to an enterprising publisher who suggested a popular edition of the book-makers' books—their materials, not their productions. Scissors and paste pot would cease to symbolise success, and that great rendering unto Cæsar leave penniless and bayless a multitude of thriving authors. The visitation is richly deserved. The swoop of those *Rapacidæ*, the bookmakers, has done more harm to perfect prose than fretting fly, mouse, or beetle. Who would not rather have his pet essays rained upon and marked threepence in Holywell Street, than serve fatten the "collected editions" of the *Rapacidæ*? No man can define absolutely what reasons guide them in their search of victims; a learned, a brilliant, and original work is published—it succeeds, as such works may occasionally in this just and discerning capital; but the success is ephemeral; twenty years after it has disappeared from general circulation—then the *Rapacidæ* have it. Pass from desk to desk under the big dome of Great Russell Street, peep over the plodders' shoulders, and you will be able to form some estimation of the character and extent of the book-makers' library of useful knowledge. You will find Pepys, Duc de St. Simon, the "Anatomy of Melancholy," the "Dictionnaire de la Conversation," "in use," of course; but their dissectors are the superficial leeches whose teeth are in the milky stage,—the mere 'prentice hands of the workshop: those who are passed masters, who can suck the marrow out of a victim in a day, take the obscure veins of the mire, know the infinite resources of French and German monthlies, and are familiar with the "Original." Save these interested *industriels*, who has done more than touch a dozen pages of the wise and witty periodical pamphlet, reflecting our mind, and yet treating a wider gamut of subjects than that of any monster "daily" of 1873, a gamut that began at "little suppers" and ended at the treatment of criminal and pauper classes? Albeit quoted continually and copiously at the time of its issue in nearly every London newspaper, that providence which watches over the second-hand dealer in literature would not allow it to become a

standard volume: only some few bibliophilists and economists of our day cite the "Original," after Rumford, on the eternal food question.

The first practical reform that strikes one in Walker's essays on theoretical reform is the systematic avoidance of French kitchen terms. Those ambitious bills of fare in barbarous French, from the title, *menu*, to the final item, *sorbet*, denote more than a fashionable affectation; they constitute the avowal of our incompetency in culinary science, an epicurean *mea culpa*; and an inferiority so easily confessed generally becomes irremediable. Our epicurean vocabulary is nearly all French, and an English cook is all but an anomaly; he must speak French, and should be French. These practical avowals have more influence than broad philosophers suppose on national tastes and tendencies; the creation of a technical phraseology is always an impediment to general popularisation. Thomas Walker perceived it, and he does not call a dish a *plat*, or a stew a *ragoût*. But these are literary *minutiæ*. The table of Thomas Walker was no Lucullian board, stained with champagne, and bordered by sleek Silenus, Rabelais, Falstaff, and Mazarin's gluttonous minion the Abbé Dubois. It became the platform of an earnest professor at times. The host was less an epicurean than a doctor and hygienist. His youth was very sickly and weak. He passed through no apprenticeship of Horatian orgies and bacchanalian suppers of the Regency, before becoming a master in the subtle art of eating. He was a young valetudinarian suffering in a country house, when, as he tells us, one day "I rose from my book, stood bolt upright, and determined to be well." And after many imprudencies, many unsuccessful experiments he cured himself; and his essays on "Aristology, or the Art of Dining," are little more than the result of practical experience of different diets, written pleasantly and with all love for the refinements and elegancies of a good man's table. He is a sober, sensible *bon vivant* in his loudest and most joyous periods. The grave police magistrate would awe, like the statute of the commander, a meeting of modern *dilettanti* epicures who mix their wines, and air skin-deep erudition on the subject of *cèpes bordelaises*, and curried quails. He is not prostrated before the *Dieu Ventre*; he studies his dinner scientifically, as our forefathers were wont to do; he is conscious of a mission, even as a Fourier or Proudhon might be. "Anybody can dine, but few know how to dine," is his motto and epigraph. "The different products of different seasons and of different parts of the earth afford endless proof of bounty, which it is as unreasonable to reject as it is to abuse. It has hap-

pened that those who have made the gratification of the appetite a study have usually done so to the exclusion of nobler pursuits, while, on the other hand, such study has been held to be incompatible with moral refinement and elevation." But "as upon the due regulation of the appetite assuredly depends our physical well being, and upon that, in a great measure, our mental energies," there exists a happy mean, which is that of a broad gastronomical philosopher, of a regenerator of our social habits. Walker takes this mission to heart—he treats of food in relation to society. The principle is laid down at starting, that there are three kinds of dinners: every-day social dinners, solitary dinners, and dinners of state. The second are thoughtful, ergo, indigestible; the "Original" defines the every-day repast *en passant*; but all his satire, all his reformer's fervour is expended on the subject of the state meal, that awful feast whereunto we are invited by stiff cards a month beforehand, and at which Macbeth or Damocles might preside. Doubtless these abominations of British social life—only equalled in ghastliness by insular morning calls—have been considerably modified in our day, and would be regarded as comparative blessings by Mr. the Original Walker; but though diminished, the evil yet subsists, and his strictures might still be read with profit in many a modern household. Who cannot echo his wail, even in our glorious period of universal reformation?—"How often I have sat in durance stately to go through the ceremony of dinner, the essence of which is to be without ceremony, and how often in this land of liberty I have felt myself a slave!" Imprimis the victim rails against the professional gaolers, those mute-like myrmidons in white cravats who survey our baldness or the parting we feel to be a flagrant sin against the canons of Truefit, who never have the wine we want, and baste our shoulders with *sauce blanche*. The Original's philosophy of attendance at table is simple, like all true philosophies. In houses where a "war establishment" is adopted on gala-days, the inmates and guests are in a constant state of invasion by their own troops; "nothing is left on the table—even the salt will disappear," and one must be a bold and phlegmatic diner-out to do like Mr. Walker, and help oneself to salad under the stern and reproachful eyes of a waiter! The only convenient plan is to have everything actually on the table that is wanted at the same time, and nothing else. The Original gives an example for a party of eight: "Turbot and salmon, doubles of each adjunct; lobster sauce, cucumber, young potatoes, cayenne, and Chili vinegar, and let the guests assist one another. Any system of simple attendance would induce a system of simple

dinners, which are the only dinners to be desired." As it is, it is more the cost and trouble of attendance than those of the dinner itself that prevent many modest households from indulging in more than one convivial gathering a year. The Original preaches by example, not by theory alone. This is his model dinner at Lovegrove's, at Blackwall. What an Old-World ring the names have! One dreams of the Mitre Tavern and old Fleet-street chocolate-houses! "The party will consist of seven men besides myself, and every guest is asked for some reason upon which good-fellowship mainly depends, for people brought together unconnectedly had better, in my opinion, be kept separate. Eight I hold to be the golden number, never to be exceeded without weakening the efficacy of concentration. The dinner is to consist of turtle, followed by no other fish but whitebait, which is to be followed by no other meat but grouse, which are to be succeeded simply by apple fritters and jelly; pastry, on such occasion, being quite out of place. With the turtle, of course, there will be punch; with the whitebait, champagne; and with the grouse, claret. The two former I have ordered to be particularly well iced, and they will all be placed in succession on the table, so that we can help ourselves as we please. I shall permit no other wine, unless perchance a bottle or two of port, if particularly wanted, as I hold variety of wines a great mistake. With respect to the adjuncts, I shall take care that there is cayenne, with lemons cut in halves, not in quarters, within reach of everyone, for the turtle; and that brown bread and butter, in abundance, is set upon the table for the whitebait. The dinner will be followed by ices and a good dessert, after which coffee and one glass of liqueur each, and no more, so that the present may be enjoyed rationally without inducing retrospective regrets. If the master of a feast wishes his party to succeed, he must know how to command, and not let his guests run riot according to their own wild fancy." Accordingly, he tells us solemnly in a later number:—"As soon as the liqueurs were taken round once, I ordered them out of the room, and the only heresy committed was by one of the guests calling for a glass of bottled porter, which I had not the presence of mind instantly to forbid."

The Original lived in a prim and prejudiced age: he had learnt nothing of the equality of the sexes, and dared lay down the axiom, "Men nearly always know how to give dinners better than women." Paulus Æmilius, a most successful general and host, said it required the same sort of spirit to manage a banquet as to win a battle. Humility, bashfulness, anxiety must not be seen in

the face of a presiding host, and women are apt to be *effacée*, timid, or in constant fear of culinary mishaps. Then they bestow more attention on silver, linen, and illumination, than on the meat and drink which constitute the *raison d'être* of the gathering. "Ladies have," says the Original Walker, "a very inconvenient love of garnish and flowers, either natural or cut in turnips and carrots, and stuck on dishes so as greatly to impede carving and helping. This is the true barbarian principle of ornament, and in no way distinguishable from the untutored Indian's fondness for feathers and shells." The subsequent essay on table ornamentation, preparation of dining-room, lighting, heating, etc., is as applicable to our present customs as it was to those of 1830. Aristology, or the art of dining, has made immense progress during the last thirty years, but only among the higher classes. Fruit and flowers are still placed on tables where one is eating venison; sauces are still poured over dishes that do not need them, in order to correct their "plain" appearance. These are tough and stubborn heresies against which all reformers should continue to tilt. Like Brillat-Savarin, the Original is averse to spacious dining-rooms, "where one seems to evaporate and fly off into the void." The *cabinets particuliers* of French restaurants are cited as model dining-rooms. The apartment should be without "any individual ornaments or objects to distract the attention," and the light should be thrown from some unobserved point, the view without be hidden by curtains for the same purpose. These local arrangements are most difficult in hot weather. In winter Walker recommends, with old-fashioned enthusiasm, the cultivation of that moral and convivial institution, the fireside. Our kitchens are generally far too distant from the dining-room. The superiority of a French apartment in this respect needs no proof. The Original would have the kitchen the appendage of the table, divided from it during dinner by curtains. The table should be round, and just large enough to admit of the guests sitting without squeezing. Instead of the usual centrepieces, epergnes, etc., Walker would have baskets of beautiful bread, white and brown; and he sweeps away the *impedimenta* of stands and coolers. "If wine is served at a proper temperature, it ought to remain so as long as it ought to be necessary." He is a foe to the variety of wines, and would have but one glass at his elbow at a time. "Too many sorts of wine confuse the palate and derange the digestion. After long fasting, begin slowly; and after a solid foundation has been laid, quicken by degrees. Often exhaustion from other causes than fasting reverses this order. As soon as the spirits are a little

raised, slacken the pace, contrary to the usual practice. When the proper point of elevation is attained, so use the glass as just to keep there, whereby enjoyment is prolonged without alloy. The moment the palate begins to fall, leave off." Walker opines that four kinds of wine are the very utmost to be taken at one time, and with strict observance of the analogies between them as sherry and champagne, port and claret. Moreover, they should be drunk in uniform order. Some of his teachings sound strangely puerile in our ears, that have heard horse-steaks called for calmly, and swallows' nests ordered in the Champ de Mars. But epicureanism was in its infancy in England when the Original wrote; so we pass by his attacks on excessive eating, the practice of "taking wine," and pause at the tender elegiac essay on suppers. Rude image-breakers, gibing rationalists, have said bitter things of the gracious institution; they condemned it, and it has died out. But the Original avenges it in a word: "Dinner is the meal of the body, supper is that of the mind." He denies that it is unwholesome with indignation. There is no pleasanter or more healthy repast than a savoury little supper at half-past nine or ten, after a moderate dinner at an unfashionable hour. It is an excellent time to enjoy game and all delicate meats, and then a bowl of negus comes after, and sends the Old World epicure to bed, two hours later, as well as any victim of an eight o'clock *diner russe*. "Luncheon is a joyless dinner, dinner is a cumbrous supper, and utterly destroys that refreshing little meal tea."

The Original is not of our epoch, it will be seen: he has no sympathy with the well-bred daintiness of our day, with its ultra-refinements, and the cosmopolitan hodge-podge of its favourite *cuisine*. He writes in his last pages:—"If the state prisons were thrown open, and the fetters of fashion cast off, what inward rejoicing there would be among rich and poor, male and female! what struggles, what pangs, what restraints would be avoided—what enjoyments, what pleasures would present themselves, and what elasticity would be given to the different bents of the human mind!" At no moment are the fetters of fashion so keenly felt as when rich and poor sit down to table. The Original could not emancipate us, but at least he struck a manful blow at the "worn-out dynasty of fashion."

EVELYN JERROLD.

---

## GASTRONOMIC FESTIVALS.

---

PARIS, *March 18th, 1873.*

It will surprise no one that the programme of the London International Exhibition for this year has created a feeling of emulation in the bosoms of our friends here, and that Paris is, consequently, to have its *Exposition gastronomique, culinaire et vinicole*, this spring as well as London.

This exhibition has nothing to do with the great one of fat cattle, poultry, alive and dead, and dairy produce of all kinds, which is to take place next year in the Palais de l'Industrie, but which was, by mistake, announced by the journals as for 1873; it is a special exhibition got up by some well-known *gourmets*, and is to take place in a building in the Champs Elysées; but as the opening is announced for the 15th of May, and the building is empty at present, it does not promise to be a very extensive affair. Still, our neighbours are so ready with respect to everything connected with the kitchen, that they may do wonders in a short time.

This is not, however, the only gastronomic festival in preparation. A well-known journal, *Le Sport*, has long advocated what it calls *Diners régionaux* in the various towns of France famed for the excellence of their alimentary products—and what French town is there that does not boast of something of the kind? The proposal was made much fun of, and had almost been forgotten when the authorities of Pau announced that at the coming agricultural exhibition, of the region of which it is the centre, the experiment of showing all its alimentary products, and the effects of all its culinary skill would be tried.

The region in question includes two departments of the Pyrenees, the Gers, Landes, Haute-Garonne and Lot-et-Garonne, corresponding pretty nearly with the old province of Gascony, and all are famous either for the production of special aliments or modes of cooking them. Gers produces some of the best butchers' meat in France; the town of Lombez is famous for geese and ducks, and Lectoure for *eau-de-vie*; the Pyrenees are renowned for sea fish, including John Dory and sardines, *pâtés* of various kinds, excellent cheese, and the Bayonne hams, which French patriotism declares



to be far superior to anything England or Germany produces ; but, good as the former are, we cannot endorse that opinion ; we are rather inclined to adopt the dictum of that most amusing comic writer, Peacock, in the case of sheep :—

“ The mountain sheep are sweeter,  
But the valley sheep are fatter ;  
Therefore I think it *meeter*  
That I should take the latter.”

Landes, the land of marshes, where the shepherds tend their flocks while mounted on tall stilts, knitting stockings, is famous for its *pré-salé* mutton, fed on wild thyme, like our own little Welsh sheep, wild rabbits, water fowl, and fish ; the Haute-Garonne for fruit, for delicious trout, and for its ducks with truffles, geese, etc., in the form of *pâtés* and in *terrines* ; lastly, Lot-et-Garonne is renowned for the savoury *pâtés* of Nérac, goose breasts and legs, delicious red partridge *pâtés*, chestnuts, and Mezin honey.

The programme of the Pau Exhibition includes the cooking and sale of all the dishes peculiar to Gascony, and, if carried out well, cannot fail to be attractive, especially as Pau and its neighbourhood are very fashionable resorts in autumn. The gastronomist, the philanthropist, and the sanitary philosopher will have a fine field open to them this year, after spending the spring and early summer in the not exactly academic, but fragrant, groves of the International Exhibition at South Kensington, and having laid in a stock of robust health, in the form of the finest meat in the world well cooked, accompanied by the “ wine of the country,” which will doubtless flow in delicious bitterness, they may, should the dates, which are not yet announced, fit into each other, take as it were a second course of study, comprising fresh subjects treated in a new manner.

We grumble sometimes about the hard, iron, prosaic character of the nineteenth century, but we are cruelly unjust to our own age ; our unfortunate ancestors are the people to be pitied ; a Vatel, a Brillat-Savarin, a Kitchener, or a Walker (the “ Original ” Walker), were each sufficient to illuminate a generation, while now, in our days, the world is ransacked for delicacies ; the kitchens of the East and the West, of the North and the South, are open to all mankind ; we cover our tables with rarities from every country from India to the Pole, we grow our meat, our fruits, and our wines on one side of the world and eat them on the other ; we have arrived almost at perfect world wide communism in the matter of food—and yet we are not content !

G. W. Y.

## PRACTICAL FOOD ANALYSIS.

---

\*.\* Under this heading it is proposed to give, from time to time, well considered or improved processes for the analysis of articles of food, drink, and drugs. The column will be under the direction of Dr. Muter, and we invite the co-operation of the food analysts throughout the United Kingdom, to render it a means of securing the necessary interchange of ideas between them, and a consequent uniformity of results. All contributors will have their names duly attached to their contributions, and every opinion expressed will be published without reserve.

---

### NO. 2.—THE STRENGTH OF SPIRITS.

THE title of this paper may be uninteresting to the general reader, but, as the *Food Journal* is likely to become the medium of communication between the different analysts appointed under the General Adulteration Act, I at once take up a subject which is very little known outside the government departments, and of which very little information can be obtained in any of the ordinary books of reference.

The chemist generally estimates the quantity of alcohol in a liquid by taking the specific gravity, and then expresses the quantity present as so much per cent. of absolute alcohol. In a legal sense, however, absolute alcohol is unknown in this country, and the only standard recognised is "proof spirit." This standard was legalised in the year 1816, and, although a commission of the Royal Society was appointed in 1832 to consider the question of continuing this standard of proof for revenue purposes, they did not recommend that absolute alcohol should be the unit of comparison, but simply a slight modification of the old standard.

In this paper it is unnecessary to detail the reasons for coming to such a conclusion; but, as the report to the Treasury was written by the late Professor Faraday, it is evident that the committee had weighty reasons for their recommendation, and had well studied the subject before writing the report. The Government did not see its way to the adoption of the suggestions contained in the committee's report, and, consequently, the legal standard for the estimation of the value of spirits is the same now as it was in 1816.

It is difficult to learn how the word proof first became the

---

standard of strength, but it is easy to find that such a standard, although varying in value at different times, has been in existence for more than 140 years. Before hydrometers were legally used for testing the strength of spirits, we learn that in 1760 the Government gave their officers plain instructions for testing the strength of spirits imported, and though not scientific in the smallest degree, yet these instructions show that stringent regulations were then in force for detecting evasions of the spirit duty.

That these regulations were only partially successful may be inferred from the following extract taken from the instructions then issued to the Government officers. The instructions first direct the officers' attention to the fact that importers of spirituous liquors have found out a method of disguising the strength of spirits by adding to them, abroad, treacle or some other kind of syrup, and then, it is said—

“In order to find out whether sweetened spirits are above proof, and to what degree, the import officers are to provide themselves with phials, called thumb-phials, and also with large phials. Then, first put one thumb-phial of water in a large phial, and then put a thumb-phial of the spirit to it; if, by shaking it, it will not support a bubble in the phial, put in another thumb-phial of spirits, and so on, till by shaking it will support a bubble in a phial, or in a glass, by pouring it out of one glass into another, keeping your hand at a considerable distance in order to froth it. This is what the distillers call phial-pouring, or glass-proof. Then look at the annexed table, and you will find the quantity of overproof which ought to be charged.”

A table is then given, but it is too long to be repeated here. Other methods were adopted for estimating the strength of spirits, such as the addition of turpentine to the spirit, when, if the turpentine sank, the spirit was considered proof, or over proof, and if it swam the spirit was under proof. Gunpowder was likewise used as a test, so that spirit containing gunpowder was inflamed, if, immediately before the extinction of the flame, the gunpowder exploded, the spirit was proof; but if so much water was present as to prevent the explosion, the spirit was underproof. Many other methods were tried, but eventually the tendency of thought was to depart from such rough experiments, and to endeavour to discover an instrument which would show the strength with greater certainty. As early as about 1725, a rough hydrometer had been devised, but it was so defective in construction that little reliance was placed upon it, and it was not legalised till 1787. The working of this instrument was so unsatisfactory, that the whole subject of hydrometry was referred to the Royal Society, and in 1794 Sir Charles Blagden reported upon the questions submitted, and gave to the world the results of a series of experiments made

on mixtures of water and alcohol, by Mr. Gilpin, which have been, even down to this time, considered the most accurate series of experiments of the kind which have ever been made. They are important to us, because they were made by Sikes the basis on which he constructed his hydrometer, and which hydrometer has from 1816 been the legal instrument for testing the strength of spirits in the United Kingdom.

As already stated, it is essentially necessary that there should be a legal definition of the unit or standard of comparison on which the hydrometer is founded, and this unit is called "proof spirit," which in the Act 58 George III., c. 28, is defined to be "that which at the temperature of 51 degrees by Fahrenheit's thermometer weighs exactly twelve-thirteenth parts of an equal measure of distilled water." Such is proof strength as indicated by Sikes's hydrometer, and as this is the only legal standard, it follows that our analysts must estimate the strength of spirits by the hydrometer and not by the specific gravity bottle. When the sample to be tested is simply a mixture of spirit and water the hydrometer is practically accurate; but if sugar or any matter is present in solution the hydrometer can no longer be relied on, and distillation is necessary to separate the foreign matter. This fact cannot be too prominently brought forward at the present time, when almost every spirituous liquid drunk contains some flavouring or solid matter in solution, which interferes with the action of the hydrometer. To show that this statement is strictly accurate, we have only to examine ordinary rum, Irish and Scotch whiskies, and brandy, both pale and brown. The rum and brandies will be found coloured with burnt sugar, the Irish whisky will be flavoured with Malaga or other wine, and probably burnt sugar, and the Scotch whisky will be found frequently to contain low class sherry. All these substances interfere with the hydrometer, and, consequently, to arrive at accurate results, distillation should be practised in all these cases before the strength is taken.

And after the strength has been properly taken by Sikes's hydrometer there may be some little difficulty in expressing the strength, under proof or over proof, as the case may be, in per centages of proof spirit. It must, in the first place, be distinctly understood that when spirit is of such a strength as to be shown—say, for the sake of illustration—50 over proof, this expression means that 100 gallons of this spirit when diluted with water to 150 gallons, the strength of the resulting mixture would be exactly proof strength. Similarly a sample of spirits shown by the hydrometer 40 under proof, the meaning of the expression is, that 100 gallons

of such spirit contain only 60 gallons, or 60 per cent., of proof spirit.

Consequently, when it is required to express the per centage of proof spirit in any sample under proof strength, it is only necessary to deduct the degrees under proof shown by the hydrometer from 100, and the difference is the per centage of proof spirit.

We are aware that such expressions are not strictly accurate, as no allowance appears to be made for concentration when the spirit and water are mixed together; but the hydrometer itself is practically accurate, as it has been constructed on scientific principles, and all sources of error have been carefully guarded against by Mr. Sikes.

It would be well if there were but one system of expression for the strength of spirits, and also for weights, measures, and coinage; but, unfortunately, every country seems wedded to its own system, and prejudice is difficult to overcome. However, we must make the best of our present difficulties, and whilst scientific men are trying to establish uniformity in weights and measures we can only do our best to further their views by becoming thoroughly acquainted with what we have at present, and learning what would be the simplest substitute.

B. R.

NOTE.—While fully admitting the excellence of the above article, and the soundness of the views therein expressed when applied to the analysis of alcoholic liquors for commercial purposes or revenue assessment, I cannot fully concur in the conclusion that it is desirable for food analysts to use Sikes's hydrometer, or to state their results in degrees of proof spirit, to say nothing of the many occasions on which, from the smallness of the sample supplied, the employment of the instrument would be impossible. My objections are based on the following grounds:—1st. That the result is obtained in per centage by volume. It is well known that mixtures of alcohol and water expand and contract very unequally at various degrees of temperature; thus, alcohol of 20 per cent. has a specific gravity of .9751 at 60 degs. Fah., and of .9732 at 70 degs. Fah.; whilst alcohol of 50 per cent. has its specific gravity .9335 at 60 degs. Fah., and .9293 at 70 degs. Fah.; the relative expansion of heat being, in the latter case, more than double that in the former. It is true that tables have been constructed by which such errors can be, to a great extent, eliminated; but reference to tables always involves more or less liability to inaccuracy, and, when the advantage to be gained is questionable, such reference should be avoided. 2nd. The distillation being usually conducted with nothing intervening between the lamp and the flask containing the liquor, the distillate may become contaminated by products of the decomposition by heat of solid matters contained in the fluid, and then the determination of the specific gravity is impaired in accuracy. For these reasons, and because of the impossibility of accurately estimating by volume the solid contents of spirituous liquors, I prefer, like the

standard chemical authorities, rather to estimate alcohol by weight than by volume. The various methods of indicating the quantity of proof spirit in a mixture is well indicated in the following manner;—The *Times*, of January 18, contained an article, in which 14 per cent. of absolute alcohol was stated to represent 28 per cent. of proof spirit. On the 30th of the same month a letter was inserted from Mr. Johnson, late of the excise laboratories, in which the same per centage of alcohol was stated to be equivalent to 24·5 per cent. of proof spirit—the greater per centage being probably the result of a calculation by volume. I think, therefore, that food analysts should prefer to use a perfectly definite standard, such as absolute alcohol, instead of an undefined compound like proof spirit, which I have seen variously stated as containing 49, 49·5, and even 50·5 per cent. of absolute alcohol. The following is the process I employ for small samples which are not for commercial purposes, and its perfect simplicity constitutes a strong recommendation for its use. 100 grammes of the liquor are carefully neutralised and immediately transferred to a retort, placed in a water bath, and adapted to a condenser which is furnished with a carefully counterpoised flask as a receiver, and the distillation at once proceeded with. When not more than 15 per cent. of residue remain in the retort, the flask and its contents are weighed, and the specific gravity of the distillate is carefully taken at the exact temperature of 60 degs. Fah. The per centage of absolute alcohol by weight in spirit of the specific gravity found being ascertained, this is reduced from the per centage in the actual weight of spirit distilled over to per centage in the 100 grammes originally taken. In conclusion, for food analysts to abandon this exact chemical process for a commercial method, in which there are many points which render it liable to give erroneous results, would, I think, be hardly wise, while the legality of the standard of proof spirit only really applies to matters of assays for estimating the amount of duties. I should be glad to hear the opinions of other food analysts upon this and the other many important subjects awaiting our consideration.

JOHN MUTER, PH.D., F.C.S.

---

At a recent meeting of the Newry (County Down), Ireland, Town Commissioners, a report was read from the town inspector, stating that in compliance with instructions he procured the instrument for testing the quality of milk, and, having made one inspection, he had to report on the result as follows:—Buttermilk inspected—57 samples: of these five were free of water, four showed 20 per cent. of water, six 30 per cent., seven 40 per cent., twenty-one 50 per cent., nine 60 per cent., five 70 per cent. New milk inspected—32 samples: of these thirteen were free of water, four showed 20 per cent., three 30 per cent., four 40 per cent., five 50 per cent., three 60 per cent. He had reason to believe that many of the samples contained adulterations besides the water. The chairman said the report had been submitted at his request, with the view of informing the public that if any cases of putting water into milk were brought before him he would impose fines of 5*l.*, no matter who the offenders might be.

## MARKETS OF THE MONTH.

---

IN consequence of the backwardness of the season, I think we may entertain favourable anticipation concerning the fruit crop of 1873. When genial weather sets in in February, the fruit buds are ready, prematurely, to burst into blossom; the cold cutting winds of March, and its frosty nights, play havoc amongst the blossoms which the bright days develope; very few crops survive the terrible ordeal, so that little fruit arrives at maturity. This year everything is later than usual, so that when Spring weather comes upon us, and the fruit trees are in bloom, it may be reasonably expected that the season will be too far advanced to endanger the prospects of our fruit crops.

Large importations of Foreign potatoes continue to arrive, and command a slightly improved price; those of home growth are now quoted at much the same prices which ruled last month, but the supply is very limited of good samples. Prices are—for Regents, 180s. to 250s., other kinds, from 120s. to 140s. per ton. The importations of Foreign potatoes, for the week ending March 15th, consisted of 8,376 bags from Rotterdam; 1,776 bags from Harlingen; 595 bags and 110 tons from Ghent; 3,774 bags from Brussels; 9,813 bags from Ostend; 3 bags from Bremen; 104 tons from Groningen; 488 tons and 36,854 bags from Antwerp; 8,725 bags from Hamburg; 904 bags from Boulogne; 38 bags from Havre; 596 tons from Rouen; 1,841 tons and 3,125 bags from Dunkirk. The enormous quantity thus received may be imagined when it is remembered that a ton of potatoes consists of 40 bushels, and that each bag contains about two bushels. There has been considerable reduction in price of coals during the past few weeks, but prices are still far above last year's average, and it is probable that we shall never again obtain coals at the old prices.

The corn market is quiet; good samples of wheat are selling at fully former figures. Quotations of the Cork Butter Market, on the 17th, ranged from 122s. to 140s. The sugar market continues very dull, if anything, prices are lower. Hay and straw continue cheap. In the wholesale meat market trade has been slow of late, and prices slightly lower. The cattle market has not displayed much activity; a larger supply of home-fed beasts has been received. The best downs are making from 7s. 8d. to 8s.; prime Scots from 5s. 10d. to 6s. per stone. A rise in the price of Australian tinned

meats is much to be deplored ; a circumstance which, it is to be feared, will considerably reduce the consumption, even if it does not materially endanger the prospects of the trade. At the same time, I would draw attention to Australian sheeps' tongues and kidneys in tins, as delicacies worthy of attention.

A few lambs are now being sent to market, commanding higher prices than in former years, and lamb will doubtless continue dear throughout the season, in consequence of the scarcity of mutton.

Covent Garden displays many delicacies at this time of the year : Malta new potatoes, 12s. per cwt., are just in, and I will notice besides, Pines, forced, at 11s. to 12s. per lb. ; strawberries, 3s. to 4s. per oz. ; grapes, hothouse, 14s. to 18s. per lb., Almeria, in 12 lb. boxes, 1s. 6d. per lb. ; lady apples, 1s. 9d. per box ; blood oranges, 10s. to 12s. per 110 ; Mandarin and Tangerein oranges, 9s. per 110 ; French Cos lettuce, 4s., cabbage, 1s. 4d., endive, 1s. 9d., artichokes, 4s., Barbe de Capucin, 6s., per dozen ; green peas, 1s. per lb. ; asparagus, 6s. to 8s., seakale, 2s. 6d. to 3s. 3d., rhubarb, 6d. to 1s., per bundle ; cauliflowers, from 2s. to 3s. 6d. per dozen ; radishes, long, 10d., turnips, 1s. 6d., per dozen ; French beans, 3s. 6d. per 100 ; cucumbers, 1s. 6d. to 3s. 6d. each ; kidney new potatoes, forced, 1s. 6d. to 1s. 9d. per lb. ; mushrooms, 2s. to 2s. 6d. per punnet. Lemons are becoming dearer ; oranges maintain former prices.

The fish market has been poorly supplied during the past few weeks, and fish of all kinds has been very dear. Soles and lobsters, on several occasions, could hardly be obtained at any price ; 3s. per pair for soles, and 8s. for lobsters, were not considered extraordinary figures. The supply of mackerel, too, from Cornwall has been very meagre, and prices, of course, ruled high. Smelts have been plentiful. The supply of salmon has been equal to former years, but not larger : price is moderate—1s. 10d. per lb. Prices in Leadenhall are higher for all kinds of poultry, and a brisk demand for all sorts of wild fowl at high figures has been experienced. Ptarmigan have been unusually plentiful at 1s. each ; at other seasons they have made 1s. 6d. There has also been a good supply of American grouse, price 2s. 3d. to 2s. 6d. each. Let us hope that the new Act for the preservation of wild fowl and small birds, which came into force on the fifteenth day of this month, will have the effect of preventing their destruction up to so late a period as formerly, and therefore be the means of increasing the supply at that time of the year when they may be destroyed without fear of causing the extinction of the species.

P. L. H.



## NOTES OF THE MONTH.

---

VISITORS to the Exhibition of 1872 will remember the interesting gallery devoted to the display of objects connected with Pisciculture, closely adjoining the machinery department. This gallery was to a certain extent unintentionally included in the Exhibition, having been devoted to the purposes of Mr. Frank Buckland's "Museum of Economic Fish Culture," which could not be removed elsewhere at the time. This year, however, the Museum will specially form a prominent feature in the Exhibition. A committee, appointed to consider the best means of exhibiting fish as food, have recommended the extension of the boundaries of the Museum, and are busy collecting, from various parts of the world, all available objects actually in use in the capture and preparation of fish, or models of them, diagrams illustrative of the subject, and fish of all kinds, living, dead, and prepared in various ways. Arrangements will be made with Messrs. Spiers and Pond for enabling visitors to taste the different kinds of fish; while the science of breeding, rearing, and protecting them before they are fit for capture will be fully explained by actual experiments and illustrations carried on in the building. Fish of all kinds are undoubtedly far too dear. Whatever may be the reasons for the dearness of other provisions, the high price of fish is as undoubtedly the effect, more or less, of one of two causes. In some cases, the oyster and salmon fisheries for example, the price has been raised in consequence of the scarcity of these fish, and the scarcity has been occasioned by over fishing, want of proper preservation, and other artificial impediments to increase, such as pollution, weirs, etc. The second cause, as in the case of pilchards, herrings, and sprats, is to be found in a want of proper and sufficient means of preserving the fish, either in a fresh uncooked state, or as ready prepared food. With regard to sprats and herrings, many thousand tons of these fish are destroyed annually by the delay in bringing them ashore after they are caught. The fishermen make a haul, but are anxious to fill their boat before returning, and by the time they have filled up and come home, the first catch is very often found to be putrid, and fit only for manure. In the case of pilchards, though the fishery is so abundant, one scarcely ever sees a pilchard because this fish "goes bad" so soon, and the mode of curing them is appreciated only in Cornwall, and in Italy, and one or two other foreign countries, whither the greater part of the

fish are consigned, instead of adding to the food resources of this country. Can no means be adopted whereby these delicious fish may be utilised at home? Fish, unlike sheep and oxen, cost nothing to feed; they can be captured in enormous quantities, and it is a pity that we should not take greater advantage of the supplies which a bountiful Providence has brought to our very doors. The subject of the development of our fisheries is a vast and momentous question, which the Legislature has thought worthy of its consideration, and which is receiving every day more general attention and care. There is one branch of it which is hardly sufficiently appreciated, and that is, the best modes of cooking and preserving the fish when they are caught. Large consignments of tinned fish, salmon, trout, eels, lobsters, oysters, are received daily into this country. We, on the other hand, *ought* to be able to supply foreign lands with the superabundant produce of our waters, but we have scarcely yet learnt how to cook what we want for our own use. We trust the Exhibition will prove a school, where hints on this important subject may be given, and that the visitors will not be above receiving and acting on the instruction that is to be obtained there.

---

AMONG our hitherto neglected food resources is the *Cavia Cobaya*, or Guinea Pig. This pretty, tidy, and attractive little creature is stated, by a contributor to the *Scientific American*, "to afford most nutritious and delicate food, which, if once received into our markets, would soon be prized for its many desirable dietetic properties." Why the gastronomic eye and palate of the British epicure have not already settled on this dainty, and marked it for their own, we are at a loss to conceive, although, in the case of the paternal mortal of every-day life, the reason is evident. Ever since the grand discovery of America, by Columbus, the interesting little cavy has been one of the pets of European children, and the stern parent who could have ruthlessly consigned to the oven, the spit, or the pot, the family fondling, would have been regarded with as much awe, if not horror, as if he had eaten the family canary. Looked at in another light, the idea may have anchored itself in some minds that the Guinea Pig is a species of rat, therefore repulsive, and unfit for human food. But such a notion is wholly unauthorised by facts. It resembles the destructive and perpetually hunted family of the *Rodentia* in no particular, except in being remarkably prolific. In this respect, indeed, it distances every known quadruped. Its extraordinary fecundity in a wild state is justly regarded by naturalists as a wise provision for the

preservation of the race against the incessant attacks of carnivorous birds and beasts, by both of which it is perpetually assailed. Its very defencelessness, indeed, seems to mark the cavy for food. As this extraordinary productiveness does not appear to be lessened when domesticated, we think our poulterers and fishmongers miss a tenant for their hooks and marble slabs, in overlooking the little Guinea Pig; but we trust soon to see it figuring in our markets as a favourite article of diet.

---

THE much-desired process for effectually and economically preserving joints of meat, fish, and game in a fresh condition for an indefinite period—notwithstanding Sir W. C. Trevelyan's prize of 100*l.* for this object at the disposal of the Society of Arts—seems as yet hidden in the future. To predict, therefore, that honour, wealth, and the blessings of millions await the fortunate discoverer, is only giving expression to the feelings of our own and continental populations. Hitherto the exertions of those interested in the subject of a cheap animal food supply from abroad have been expended mainly in the direction of tinned cooked meats and jerked beef, with, we are happy to record, marked success. Still, there remains a great unsatisfied want, a yawning gulf of disappointed craving to be bridged. It is the fresh joint, the firm salmon or cod innocent of salt or smoke, and the dainty brace of sound game, which are so alluring to the eye of every British housewife, and which no foreign dressed or chemically prepared viand can rival. In short, her economical eye, especially during Lent, rests with satisfaction where, in the words of the poet Gay,

“ . . . Fishy stalls with double store are laid;  
The golden-belly'd carp, the broad-finn'd maid,  
Red speckled trouts, the salmon's silver jowl,  
The jointed lobster and unscaley sole,  
And luscious scallops to allure the tastes  
Of rigid zealots to delicious fasts.”

The latest advance towards this distant goal was illustrated recently at the Alexandra Hotel, Liverpool, by Mr. McMahon, who, as the representative of the Texan Fresh Meat Importers, invited a number of guests to luncheon, and explained the general process by which the joints before the company had been preserved. It appears that the animals are bled immediately on being slaughtered, cut up by machinery, and the joints and blood treated chemically; but the particulars of this important part of the process were not divulged. Packed into casks and filled up with blood, the joints appear to have stood the voyage across the Atlantic, turning out tender and

free from taint; and it was intimated that such meat could be supplied at 5½d. per lb. Should this venture secure public approval, and sufficient encouragement be extended to the importers to justify them in persevering, there can be no doubt that a vast undeveloped food supply awaits us in Texas. The chemical element, however, is evidently a weak point in this process, and the blood is another; whilst the question naturally arises, if the joints can be preserved by it in a moist state, why not in a dry? Meat saturated with blood and surrounded by that fluid must present rather a repulsive appearance, and weighing so much heavier than dried flesh, will cost the importers more for freight, and prove dearer to the purchaser than would otherwise be the case. If we must accept the aid of chemistry, surely it might be applied to meat preservation in a more economical form than this. Some few years ago Dr. Abbate, of Naples, discovered a method of petrifying the human body, yet retaining the form and features intact, and rendering it almost as hard as marble. After further experiments, he succeeded in applying a modification of the process to meat; but the learned Neapolitan, like our cousins over the water, steadily declined to reveal his secret, although he offered to visit any part of the world and exhibit the results of his discovery. If Dr. Abbate be alive, and of the same mind still, it might be worth consideration for the Americans to invite a visit from the accomplished Italian, and put his discovery to the test. If success attended their mutual efforts, the lowing herds of Texas, in place of becoming common barrelled beef and floating to their destination in their own gore, might ere long reach us nicely boxed-up in the form of meat tiles or bricks, alike pleasing to the eye, gratifying to the palate, and suited to the attenuation of the slenderest purse.

---

PROFESSOR REYNOLDS, M.R.C.P., has just delivered a most interesting lecture, before the Royal Dublin Society, on "The Discrimination of Good Water and Wholesome Food." Referring to meat, the lecturer said that good meat should possess the following easily observed characters:—1. It ought to be of a full, slightly brownish, red colour; neither of a pale pink tint on the one hand, nor of a deep purple hue on the other. If pink, disease is indicated; and if purple, the animal has probably not been slaughtered, but has died with the blood in it, or has suffered from acute fever. 2. It should have a marbled appearance, from the ramifications of little veins of fat among the muscles. 3. It should be firm and elastic to the touch, and should scarcely

moisten the fingers. Bad meat is usually wet, sodden, and flabby, with the fat looking like jelly or wet parchment. 4. It should have little or no odour, and not disagreeable, for diseased meat has a sickly, cadaverous smell. Any disagreeable odour is most easily detected when the meat is chopped up and drenched with warm water. 5. It should not shrink or waste much in cooking. 6. It should not become very soft and wet on standing for a day or so, but should, on the contrary, dry on the surface. Pork, if unsalted, should present the characters above stated; but the colour of the meat, if sound, is of a very pale red tint. When infested by the dangerous parasite, *Trichina Spiralis*, the meat is usually of a dark colour. Unfortunately, the animal itself can scarcely be detected by the unaided eye; not so the *cysticercus*, or measles, whose little sac is often as large as a hemp-seed, and can be easily seen. Sausages are liable to partial decomposition, and then become poisonous, from whatever kind of meat they may have been prepared. Good sausage-meat should be firm, not moist, gelatinous, and vesicular. It should be free from disagreeable smell and taste, and from acidity. Speaking of fish, Professor Reynolds states that it is free from offensive smell, and the flesh is not soft or gelatinous. Salmon or trout should not only have the well-known pink-coloured flesh; but when the finger is drawn quickly and firmly across the fish, the depression so caused ought to fill up quickly, and a corresponding elevation or ridge soon appear. Sea-fish is not tested in this way; but the rigidity of the fish is sufficient to indicate its fresh condition. The bright red colour of fish-gills is a sign of very little importance, as the gills are often artificially tinted.

---

WHEN will our countrymen in the tropics learn to estimate the value of educated human life? Our best and dearest daily perish in the East and West Indies through malignant fevers, which, if not produced, are at least perpetuated and intensified in virulence by the culpable neglect, by the municipal authorities, of the most ordinary sanitary measures. Mauritius is, at once, a gem of the Atlantic, and a fever-stricken, filthy, tornado-torn island, and, but for its fierce whirlwinds and deluges, would, at this moment, be as deadly to Europeans as the worst point on the coast of Western Africa. Mr. Henry Cochran, brother of one of our contributors, has recently fallen an early victim. Young, strong, and healthy, he was seized by the stealthy miasma, on the afternoon of the 31st January, in the midst of his commercial duties, and was dead by eleven at night.

## CORRESPONDENCE.

### BREAD ADULTERATION.

*To the Editor of the "Food Journal."*

SIR,—Several reports that I have seen not exactly expressing what I said, or, at any rate, meant to say to the deputation of master bakers that waited upon me last Wednesday, will you allow me a few lines to express more correctly and exactly my views on the subject of Bread Adulteration? And first of all respecting the use of *Alum*. Nothing, in my opinion, can justify the use of alum by bakers in even the smallest possible quantity. It is added as a cheat to make the public believe they are purchasing a superior article to what they really are. It is a fraud, therefore, because an inferior flour can be used, and made, by the addition of alum, to look as if it was manufactured from the very best. But it is my experience that very few samples of bread are entirely free from a trace of alum. But did the baker put it in? Not necessarily. It is not necessary for a baker who uses the best flour to use alum. I certainly did not say that three grains of alum in the quartern loaf was not an adulteration. It has no business there at all; but inasmuch as it would be hard to prove under such circumstances that the baker was the true culprit, and that a quantity of alum amounting to less than a fraction of a grain would be injurious to health, I should not advise proceedings to be taken. Unfortunately, there are too many cases where 30, 40, 50, and even 80 grains of alum may be found in the quartern loaf. This is a very serious adulteration, and a quantity that may produce serious effects. I have myself found as much as seventy-six grains in a quartern loaf—that is, taking the yield of a sack of flour at ninety-two loaves, the addition of about 15 oz. of alum to each sack. And the worse the flour, the greater the amount of "stuff" required to render it saleable. And now as regards *Rice*. This is a terribly serious adulterant—terribly serious, because sadly frequent experiments I have made prove that by the use of rice the bread can be made to take up as much as 16 and even 20 per cent. more water than it usually contains. At times when food is no cheap article, this is a fraud on the poor that must be put down with no measured justice or false leniency. There is no justification for its use. Why should a man who picks my pocket openly in the street be sent to prison, whilst another who does it genteelly escapes the justice he as truly deserves? Lastly, as regards the use of *Potatoes*. To my mind the use of potatoes rests upon quite another footing to the use of rice and alum. They are not injurious like alum. They are not cheaper than flour; indeed, if anything, they are rather more expensive, and, therefore, they are not used for the purpose of fraud. I have carefully examined the question of moisture. One of the most respectable bakers in London made me a sample of bread without potatoes, and another loaf of the same dough with the ordinary quantity of potatoes. I could find no difference in the relative amount of moisture in the two. I am informed by some bakers above suspicion that a little potato greatly tends to render the bread light, and I am not therefore disposed to regard the use of potatoes in bread, as it is now employed, as unjustifiable, or, at any rate (for I should prefer it being not there), in the serious light that I do rice and alum.

I make no apology for troubling you with these remarks. It behoves us to watch with a strict eye the purity of this "The Staff of Life." And as one to whom is entrusted a serious and responsible duty, I shall, whilst avoiding mere troublesome and vexatious prosecutions, which can do no good, and may do an infinity of harm, use my utmost powers to punish the offender who not only robs the poor of his money, but steals away his health.

I beg to remain your obedient servant,

C. MEYMOTT TIDY, M.B.,

*Joint Lecturer on Chemistry, and Professor of Medical Jurisprudence  
at the London Hospital, Medical Officer of Health and Food Analyst  
for Islington, etc.*

The Laboratory, London Hospital, March 17.

## DOMESTIC RECIPES.

---

*The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.*

---

### OATMEAL PUDDINGS.

A correspondent who takes exception to that part of Mr. C. Carter Blake's article on "Sausage Meat," in our last number, which describes white puddings as "tasteless and innutritious morsels," furnishes us with the following recipe for their proper preparation:—Oatmeal pudding, boiled: 8 oz. beef suet, not mutton; 8 oz. oatmeal;  $1\frac{1}{2}$  oz. onion, shred very small;  $\frac{1}{4}$  oz. salt;  $\frac{1}{2}$  oz. black pepper, ground; mix thoroughly, without water, and tie hard up in a cloth. Boil an hour and a half slowly, in an open goblet, keeping it always under water, which must be boiling when the pudding is put in.

---

### SOUPE JULIENNE (MAIGRE).

(This soup must not be made in January, February, or March, because of the highness of the vegetables in those months). Take 10 pennyweights\* of carrots, 10 ditto of turnips, 4 ditto of leeks, 4 ditto of onions, 1 ditto of celery (in the stick), 2 ditto of cabbage fried in butter, 1 ditto of lettuce, 1 ditto of sorrel,  $\frac{1}{2}$  ditto of leaves of chervil. Rasp carrots and turnips; clean and skin onions, etc.; wash and dry each vegetable very carefully; cut all into stripes an inch long and of the thickness of packthread. Put all (except lettuce, sorrel, and chervil) into a small saucepan with a little butter. Shake over a quick fire until they are of a golden brown. Add a quart and half a pint of water; two pinches of salt (as much as the cook can hold between the thumb and the forefinger), and the same of pepper. Boil and put on the corner of the stove to simmer for three hours. As soon as the soup boils add the lettuce, sorrel, and chervil. When ready, turn into the tureen and serve. If you wish to make this soup somewhat better add small *croûtes* of bread fried in butter.

---

### JULIENNE (GRAS).

Proceed exactly as above, but use stock instead of water. (Note—Always use fresh vegetables; those sold in shops dried are valueless for soup.)

---

### MELTED BUTTER.

Six pennyweights of pure fresh butter, two pennyweights of fine flour, one-third of a pint of filtered water (boiling), one pinch of salt (as much as the cook can hold between thumb and forefinger), one small pinch of pepper. Take a saucepan which will hold a quart, and put in the flour and one-third of the butter. Mix them into a paste; add the salt and pepper; turn in three parts of the boiling water, and stir upon the fire until the whole boils. Go on stirring until the sauce becomes a little thicker than milk; then add the rest of the butter, cut into very small pieces, one piece at a time, and stirring always until the whole of the butter is dissolved. If the sauce is too thick, which will sometimes happen from the nature of the flour, add a small teacupful of hot water, stirring as before; then add the rest of the butter. If this sauce is served with fried soles, add a teaspoonful of best French vinegar, or the juice of a lemon, before serving.

---

\* By pennyweight is meant the weight of an ordinary bronze penny, which is the third part of an ounce.

THE  
FOOD JOURNAL.

---

FOOD AND COOKERY AT THE INTERNATIONAL  
EXHIBITION.

---

SINCE our last number appeared, the doors of the International Exhibition have been thrown open to the public, and on Easter Monday, more than ten thousand persons traversed and loitered in its galleries.

There is so much to say about the food section, that we can only this month cull a few flowers—pull a few vegetables would perhaps be a more fitting expression—and leave the mass for future crops.

We scarcely know where to begin, but as the preservation of meat is one of the most important questions of the day, we select that. In the East Quadrant, the quaint and somewhat pedantic name given to the glass galleries which unite the buildings of the Exhibition with the Conservatory of the Horticultural Society and the Royal Albert Hall, will be found many exhibits deserving of special attention. One of these is the Ice Safe of the Atmospheric Churn Company (Catalogue No. 4129); this safe is fitted with glass panels to the doors, and within are seen a leg of mutton which has hung there many days, a slice of salmon, butter, and other things; a noble block of ice occupies one of the two departments of the safe, and a current of air being allowed to pass through the safe, and the provisions side being protected by louver boards, everything within is perfectly dry, and in admirable condition.

The same company exhibits its Atmospheric Churns, in which the stem of the plunger is hollow and perforated with holes, so that the cream is squirted through, and comes in contact with more air than in the common churns; we are assured that butter is thus produced in a much shorter time than usual, and that the butter-milk is left with much better than the ordinary flavour; we believe this churn is well known.



Near the above exhibits is another of the greatest practicable value. The question of preserving fresh meat on board ship in tropical latitudes is one which has occupied many minds, but which has not yet been fully resolved; here we have a capital model of an arrangement by which the object has been practically effected on a moderate scale for some years.

The Peninsular and Oriental Steam Navigation Company (Catalogue, No. 4658) show a sectional model, several feet in length, of the ice chamber for preserving food in their vessel, the "Cathay," made by Messrs. W. Denny and Brothers, of Dumbarton. The ice chamber is divided into two departments; in the outer is the ice box, the hatch ladder communicating with the deck above, and racks for holding wine and other liquors; from the ice chamber a pipe passes into the second and larger compartment, and is connected with coils of pipes lying between the wooden grating which covers the floor. The walls of the second chamber are double, the space between the linings being filled in with charcoal broken small, and the opening between the two chambers is doubtless closed with a tight-fitting door, or pair of doors, never opened except when the entrance to the outer chamber is closed. This arrangement has enabled the "Cathay" to supply her passengers with excellent meat killed on shore—far superior to that which can be obtained from poor animals suffering on board ship. And thus we think the great problem of carrying meat over the tropical seas has been virtually solved. The cost of thus conveying dead meat in vessels appropriated specially to the purpose, even between Ireland and England, must surely be light as compared with the conveyance of live cattle, in which case many are lost, and all suffer, to say nothing of the enormous mischief of the cattle disease.

These quadrants contain a number of objects deserving attention, and the rooms on the lower floor on the western side are alive with macaroni, cocoa, coffee, and confectionery machinery and processes, but we are compelled to pass by them for the present.

The grand characteristic feature of the present Exhibition is certainly the School of Cookery, and as the art, or, as the official programme calls it, the science of cooking is one which specially interests the readers of the *FOOD JOURNAL*, we have made it our business to visit the school, and carefully study the manner of its teaching.

The School of Cookery occupies the building in the garden, on the eastern side of the Exhibition Building, in which last year thousands watched the marvellous action of the great *Times* printing machine. The two exhibitions contrast curiously with each

other; in the one we saw the composition, printing, and folding of hundreds of sheets per minute of intellectual food produced almost entirely by machine power, in the other we see food for the body prepared neatly and scientifically by the hands of well trained cooks: the one is as remarkable as an illustration of neat handwork, as the other was of mechanical adaptation and prodigious rapidity.

The school is fitted somewhat after the manner of a lecture theatre in a chemical college; across the room extends a broad table, provided with the necessary apparatus, which, in place of retorts and receivers, evaporating pans, and ranges of bottles, consists of pots and pans, dishes of meat and vegetables, spice boxes, salt cellars, and culinary tools. At some distance behind the table, against the backwall of the building, are two of Beuhm's neat kitcheners, between them a hot-plate, and over them a collection of tin and iron ware, not fine, showy, fanciful, and expensive articles, but good economical utensils, fit for modest kitchens.

Presiding over the whole of the culinary arrangements is Signor Lolato, who is evidently complete master of the noble art which had the grand Vatel for one of its victims, and Brillat-Savarin for its historian, and who, happy man! has for his assistants, four of the neatest handed Phillises imaginable, all clad alike in pretty dresses, which call to mind the pastoral figures of Watteau—neater, more active, or more efficient nymphs no priest of the *cuisine* could possibly desire.

The word of command is given; the little staff fall into their places; two of the nymphs advance to where there are two gas-fires, one near each end of the table, and Mr. Buckmaster, one of the scientific officers of the South Kensington Museum, mounts a small rostrum, towards which the eyes of a hundred or more auditors, mostly ladies, are turned, and those of the nymphs take the same direction, and await the cue which the lecturer is to give them.

There are two culinary lectures given each day, one at twelve and the other at three o'clock, and on each occasion two dishes are prepared, the operations being fully explained by the lecturer, and the products, as far as possible, submitted to the only true "proof of the pudding." And here we venture to insert one slight note of complaint:—The tasting of the dishes prepared is so essential a part of the lesson, that we hope the managers of the School of Cookery will be able to arrange matters so that the proof may be extended to the whole of the audience, instead of to

the occupants of reserved seats only. The present distinction is invidious and awkward for all parties.

As we have already stated, the cooking illustrated in the school is not for the epicure only, but for all the world—though, however poor the viands to be dressed, the principles of the art remain the same—it is a school of elegant simplicity, not of voluptuous extravagance; the dishes selected are every day dishes,

. . . . . "not too good  
For human nature's daily food."

A little pamphlet, containing 140 recipes for such dishes, is sold in the Exhibition, and forms an admirable cookery-book, price three-pence!

To give our readers a precise idea of the manner in which these lectures are conducted, we will refer to one which we attended very recently. The two *plats* selected were French, but of the most simple, and, at the same time, best kind; the former the famous *pot-au-feu* and *bouilli*, the latter the renowned *omelette*.

The lecturer began by telling his audience that the *pot-au-feu* could be made from any part of beef, but that if the meat were to be eaten, as it is in almost all careful French houses, the best piece was the silver side of the round; he described how the meat should be tied up with twine to keep it compact, and while he did so Signor Lolato performed the little operation with nimble fingers—"We then place it," he said, "in a saucepan with some bones, and pour in sufficient cold water to cover the meat and bones well over, and place the saucepan over the fire," telling the audience at the same time, amongst many other useful things, "that if the meat were placed in hot water the albumen would be coagulated within the meat, rendering it indigestible, and leaving the soup poor." As the lecturer proceeded, the two administering Phillises followed his words with their acts, as echo follows a report: they scraped and peeled the vegetables, placing carrot first in the pot, because he was the most difficult to subdue to tenderness, decorating onion all round his sides with cloves, and finally making up their *bouquets garnis*—the French cook's fancy name for bunches of herbs—composed of sprigs of thyme, marjoram, and parsley, with a bay leaf or two, an innocent little bouquet, but like some others containing a "snake in the grass." When Sydney Smith, that true epicurean, first visited Paris, he said after his first dinner there, "As I suspected, garlic is power!" So in the heart of each of these innocent posies lay hidden a clove of garlic.

Apropos of garlic Mr. Buckmaster told a story, which, not having heard quite distinctly, we shall doubtless spoil, of a great French

*chef*, who, in illustrating the fact that garlic in cookery should, as the poet said of satire, "wound with a touch that's scarcely felt or seen," said, "When I want to give the most delicate flavour I *throw* the garlic over the dish, when I want a little more I *hold* it over it, but when I want to make it very strong I *touch* the dish with it."

In coarse French cookery, and especially in the south and south-east provinces, garlic is an all-pervading nuisance, especially disgusting to the English nose, but in good cookery the garlic, to translate the French term literally, is a mere suspicion. The presence of the clove in the posy has thus almost a poetical significance.

The spices were added to the *pot-au-feu*, the water soon sent forth its steam, the lid was raised, the liquor carefully skimmed with a common spoon, not with any special new or old fangled skimmer, each Phillis adding a little cold water to make up for loss and check ebullition; and when the lecturer had finished his description of the scientific, economic, and agreeable qualities of the *pot-au-feu*, the soup was handed round in cups to the audience in the reserved seats.

*Pot-au-feu* was received by the audience with all proper and serious attention, but the very *début* of *omelette* created excitement; this every-day dish of French noble and peasant seems to have some peculiar fascination for the untutored English culinary mind. Nothing can be more simple than an omelette, but it will not "do itself;" the British cook cannot put it on the fire, run up-stairs, and find it done, except in a certain sense, on returning; omelette is exacting, will have attention, must not be neglected for an instant, and, to crown all, wants a delicate hand and a quick eye at the critical moment. A Parisian omelette is a picture, of a delicate gold colour without and creamy within, and for any one calling himself, or herself a cook, to fail in turning out a perfect omelette, would be utter disgrace. Still they require education. We have eaten omelettes on the banks of the Rhine which looked marvellously like old heads of casks, huge, dark brown, ungainly things, thick in the middle, thin and ragged at the edges, which a hot sun and delicious light Moselle made very palatable; but what a contrast between them and the omelettes of Paris! As Mr. Buckmaster properly pointed out, omelette is a principle, whether sweet or savoury, with cheese or with sweets—

"The gowd is but the guinea stamp,  
The man's the man for a' that!"

He explained the arcana of the omelette. The eggs must not be

beaten too much, or they become watery; and the *chef* and his handmaids whisked up the eggs with elegant agility, before the eager eyes of the audience, a great piece of butter was placed in each pan, and when melted the omelette mixture was turned into it, stirred till it began to set, turned over and deftly shaped with a spoon, and finally turned out with the proper golden colour which French *gourmets* demand. First we had ordinary savoury omelette, *omelette aux fines herbes*, chopped herbs and pepper and salt being mixed and whipped up with the eggs, then *omelette au confiture*, raspberry jam being spread over the omelette in the pan just before it was ready to be folded over. The omelettes were perfect, and many of the ladies, we are sure, went home with a much improved knowledge of what omelettes should be like, and of how they are produced, than they previously possessed.

The lessons were truly practical and scientific, and if continued on a somewhat more extensive scale, we feel assured that our "Family Fare," the capital title of a well known work by an English lady, who is a first rate amateur cook, as well as an otherwise accomplished woman, and known by the Welsh form of her surname Cre-fydd, would soon be materially improved. The teaching of the School of Cookery shows us how the best and the most ordinary viands may be made uncommonly nice, and to inculcate regularity and perfect cleanliness in our kitchens. Mr. Buckmaster made a hit when he said that the kitchen implements should be kept rigorously to their special services, that the carving knife should not be spoiled by kitchen use, that there should be a large and a small cook's knife, and a third with the word "Onions" stamped visibly upon it, and never on any account used for anything else, and that the master of the house should no more think of using the kitchen bone saw in the repair of his trellis or other work, than of using his razor, as poor John Reeve insinuated, when he said to his boy when shaving proved a difficulty—"John! I wish you would not open any more oysters with my razors."

The School of Cookery reflects the highest credit on Mr. E. J. Craigie, Deputy Commissioner for the exhibition of food products, and Secretary to the School of Practical Cookery, and upon all engaged in its management.

## FOOD AND HABITS IN RELATION TO LONGEVITY.

WHEN people are found disturbing themselves with considerations of what they should "eat, drink, and avoid," depend upon it their system is a little deranged. They are melancholy, dyspeptic, out of sorts with themselves and all the world. Though Shakespeare does not tell us so, it is very clear that *Antonio* is the victim of indigestion, when he says,

"In sooth I know not why I am so sad,  
It wearies me—you say it wearies you—  
But how I got it, came by it, what stuff  
'Tis made of, or whereof 'tis born, I am to learn,—  
And such a want-wit sadness makes of me  
That I have much ado to know myself."

One of the merchant's friends suggests that he is fretting about his merchandise—all at sea. He denies the "soft impeachment." His riches are not all in one bottom trusted. Another hints that he is in love. The grave Venetian is shocked at the insinuation. "Fie, fie!" At last the conclusion is come to that he is sad because he is not merry. Not one of the poor man's friends recommends a blue pill to his attention. Perhaps the Divine William had never heard of the article.

Although a creaking door is said to hang for a long time upon its hinges, it is not given to habitual invalids to hope for a prolonged existence. As a rule, continued health and mental serenity (*mens sana in corpore sano*) are the indispensable conditions of an agreeable life and the chances of longevity. But how are these to be secured? All men are not agreed as to the *modus operandi*. Cornaro had one system, Mr. Banting another. Some are earnest advocates for temperance—others go in for violent and abundant exercise. Many men have a horror of alcohol,—shrink from beer as from a deadly poison,—avoid ripe fruits, turn pale at the sight of pastry, and manifest a multitude of little prejudices and weaknesses rather than offend their stomachs and abridge existence.

The Psalmist has pronounced three score and ten years the average limit of human life. If one who has passed the seventh decade by two years, without experiencing a single attack of illness of any kind—save an occasional cold—may be accepted as an authority in prescribing a means for obtaining longevity, I will venture to describe my own habits of life from boyhood upwards, and thus impart the great secret of physical beatitude.

I rise generally after six or seven hours' sleep—in fact, as soon

as I wake—without particularly enquiring whether the lark is singing his matins at Heaven's gate or still nestles amongst the corn. A complete ablution in tepid (almost hot) water\* and its saponaceous accompaniment, followed by the rough towel, prepares one for the day's operations. My breakfast consists of coffee, tea or chocolate, bread and butter—sometimes an egg or omelette, cold meat, or potted fish—anything, in short, that may be put before me. My appetite is always good. I rarely take any luncheon, and dine in the simplest manner at five or six p.m., eating whatever comes in my way. I do not object to a single thing in the style of meat, fish, or cooked vegetables. A good salad or *mayonnaise* is acceptable, but I do not care for cucumbers, radishes or apples, *au naturel*. If I am kept out of bed until midnight I enjoy a supper—light or heavy, according to circumstances—and in the winter I do not disdain a tumbler of rum or whisky punch. So much for my diet. Do I take much exercise in the open air? No—but I never sit in an ill ventilated room, hall, church, or theatre. I walk, if necessary for business purposes, two or three miles a day. Do I take medicine? I have not had occasion to seek the aid of pills, powder or potion for half a century. Those who have abused Nature, generally appeal to the avenging Nemesis in the shape of a medico and the chemist's preparations, but I hold it better to leave all to the Dame alone. The great Napoleon was accustomed to take violent exercise after a spell of sedentary pursuits,—and if he had been in the saddle for several days in succession, he would shut himself up for a week; and this he called restoring the equilibrium of Nature. We may take a lesson from the great chieftain and deal on his principles with the epigastric regions. If we are tempted to exceed in our table enjoyments, let the feast be followed by an enforced fast. I have no bigoted antipathy to doctors' drugs, and immensely admire the surgeon's skill, but I have reason to doubt the judgment of physicians and dentists. For instance, fourteen years ago the Medical Officer of an Assurance Office (one of the first in London) told me there was fattiness about my heart, and that if I did not avoid fat meats, walk five miles a day, and drink two bottles of soda water, I could not hope to live for a twelvemonth. Well, I have given no heed to his advice. I eat fat meats of all kinds, abhor soda water, and therefore never touch it, and, as I have said, take little exercise. Yet, here I am, sound in wind and limb. A dentist of Knightsbridge assured me just twenty-nine years ago, that if I applied a certain lotion to my

---

\* I found a hot water bath the best guarantee of health, even in India, where the pores are sufficiently open.

lower gums, I might possibly retain my front teeth for a year or two. Ungrateful infidel that I was! I never once used the lotion, and the teeth retain a firm place in my head.

Now there must be something in a system of life which has emptied a man from all the ills flesh is heir to, notwithstanding that he spent twenty years in India, and nearly six in the United States, often exposed to a burning sun, hunting and shooting, or the bitterness of winter on a sleigh journey, that he was nearly starved for weeks together travelling in the south of Persia, broke his arm in Canada, and has been bruised and wounded all over. And what has been that system? The simplest in the world. Eating and drinking only when the appetite needed gratification, napping for half-an-hour in mid-day if Nature desired the brief slumber, never using tobacco in any form, sleeping with the window open, winter and summer, eating brown bread in preference to white, and generally drinking water and fresh pure milk (when procurable) in preference to the liquids provided by the wine merchant and the publican. Only let the practice be begun early in life before the functions of the stomach have been impaired by indulgence, and continued bravely and steadily.

Of course something is to be set down to a good natural constitution and a cheerful temperament, but both may be ruined by the excessive use, or the use at any time, of what may be agreeable to the palate, and offensive to the digestive powers, and both may be preserved by a simple following of the decrees of Nature, until Time asserts his dominion over even the candidates for longevity.

J. H. STOCQUELER.

---

**BEETROOT SUGAR IN CALIFORNIA.**—The Sacramento Beet Sugar Company have expended in buildings, machinery, and 540 acres of choice land, 225,000 dollars. They have rented other lands, and have sown with beet this season 1,100 acres, from which they hope to get an average of 10 tons of beet per acre. The methods of culture can be improved in California; deep ploughing is as yet hardly understood, and thus the real wealth and producing power of the soil is not utilised, but it is stated that the beet here yields a larger percentage of sugar than in Europe, which, considering the favourable climate and rich soil, is not surprising. The field-work and general culture is done by Chinese. The beets are sown by a machine in rows; are thinned, weeded, and dug by hand. The Chinese, who work in gangs, receive five dollars per week; for this they feed themselves, the company paying a cook for every thirty men, and furnishing bedding and cooking utensils. The 1,100 acres planted will employ the factory about eight months, and it is hoped to turn out 10,000 barrels of sugar this year. Only the whitest sugar is made; a ton of beet ought to yield a barrel of sugar. The refuse of the beet is given to cattle, and it is found very valuable for fattening. It is also much used for this purpose in France and Germany.



## ALEXANDRE DUMAS' GREAT GASTRONOMIC DICTIONARY.\*

---

THE first part of this century has been full of the name of Alexandre Dumas, full of his works, of his adventures, profligacy, riches, and poverty, and it is probable that so long as the words adventures, profligacy, riches, and poverty exist, the name of Alexandre Dumas will be closely associated with them. For a year or so, little of him had been said, for the excellent reason that he was dead; but it would appear that he took his measures before departing this life so that, dead or alive, he should force himself before the public nevertheless. His incarnations have been manifold and equally brilliant and eccentric, as novelist, dramatist, historian, and English scholar. He knew not a word of English, and translated Shakespeare; he never knew so much as the German alphabet, and translated Schiller; in fact, he did not only what he knew, but what he did not know. His latter incarnation is a posthumous one—that of gastronomist, and it is reserved to this extraordinary man to tell us how to concoct a sauce and eat a good dinner.

This subject, at least, is one of those he was most competent on, perhaps because he ate more good dinners in the course of his existence than any other man. He could have given lessons to many a celebrated gastronomist. It was he who bet that he could spend 20*l.* on an ordinary dinner, and won his wager at the Maison d'Or with an ease which astounded even the staunchest *mangeurs*. His gastronomical proficiency was, however, only known to his intimate friends, who knew also that the author of *The Three Musketeers*, like Rossini, was prouder of a new saucepan combination than of all his works put together. Indeed, when Rossini and Alexandre Dumas met on common ground—in the kitchen, they might have been taken for twin brothers. Once a week Rossini would drive down to Dumas' country seat, at Maisons-Lafitte; and there the great composer and the great writer, casting aside the every-day gear of ordinary mortals, attired in the tradi-

---

\* This posthumous work, numbering nearly 1,200 pages, has just been published by M. Alphonse Lemerre, the well known Paris publisher, who deserves much praise for his solicitude towards the completion of a book of which the existence was seriously endangered by Alexandre Dumas' premature death, in 1870.

tional *chef* costume with white caps and dazzling aprons, would gravely discuss over certain mysterious mixtures, and pass from theory to execution as earnestly as if the fate of the world depended on the success of their portentous experiments; and many can boast of having eaten of a dinner prepared by the composer of *Guillaume Tell*, and the author of *Twenty Years After*. It must not be thought that Dumas' appetite verged on gluttony; he ate much, but was more of a *grand mangeur* who eats according to his wants, and not out of mere brutal revelry; at least, he says so himself, speaking in his usual way of his own person with candid complacency, as if the said person were an object of peculiar curiosity and complication, highly deserving of attentive scrutiny. Brillat-Savarin, Dumas informs his readers, says that animals feed and man eats; but that a man of wit alone knows how to eat. Alexandre Dumas fitly ranks himself in the last category, and has written a dictionary of cookery for men of wit.

This novel work is one of great originality. It is alluring to the point of interesting even the enemies of Gaster; for if they care not for the tempting receipts piled up from A to Z, they will find plenty of amusing anecdotes told in that inimitable manner which made Dumas worthy of being a Gascon by birth, if he had not been one by temperament, and in all ways they will be especially repaid by the perusal of the preface. No writer ever equalled Alexandre Dumas in the art of saying nothing, in filling volumes with lively *badinage* without head or tail, and yet captivating those who read them. Part of this preface of the *Gastronomical Dictionary* is no exception to the rule: the author begins by stating his intention to say a few words, and runs on with great ease for 105 pages with not the slightest object, except the explanation of his capacity to express opinions on so grave a subject as that called by Montaigne *La Science de la Gucule*. He relates how, when the time when he was compelled to live, not to eat (by which he alludes to his scanty means at the commencement of his literary career), being passed, he organised a supper which soon became as famous as himself throughout Paris; how, after the performances of *Henri III.* at the Porte St. Martin, he went regularly to eat truffles with Mdlle. Georges and other literary and theatrical celebrities; how M. de Cressy, an old servant of Napoleon, was soliciting a situation of Louis XVIII., who refused at first, but gave it on hearing that M. de Cressy was the inventor of the compound of champagne, cream, and strawberries; how Louis XVIII. was a first-rate gastronomist, and was so nice as to the quality of his dishes that a jury was appointed to taste

everything that appeared on the king's table: all this in a breath, saying here and there a word of his pieces and the popularity of his novels; going out of his way to observe that Victor Hugo is one of the most tremendous eaters known of all times, or to relate a good joke sometimes cut at his own expense. He closes the "few words," obviously regretting that space forbids of his extending them indefinitely. He cannot, however, resist the temptation of opening another parenthesis, and saying one "last word" to the reader, wherein he gives the complete history of famous gastronomists from the darkest ages to the nineteenth century, and that of all things in general appertaining to the table, not excepting napkins, first manufactured at Rheims in the twelfth century, and tablecloths introduced in France by Philip Auguste. We are further told that he (Alexandre Dumas) invented a receipt for seasoning salad (to be found in the dictionary), which produced wonderful impressions on the palates of his guests, and especially on Ronconi's, who was wont to send his servant for a portion of salad when unable to attend the dinner. Dumas takes this opportunity of giving a curious anecdote concerning an *émigré* who made his fortune in London by his particular efficiency in seasoning salad: the Chevalier d'Albignac was dining in a tavern, when a number of young men engaged on as pleasant a task as himself, civilly requested his help for the concoction of a salad. The Frenchman readily gave it, and was surprised, a few days afterwards, to receive an invitation to dress a salad for a nobleman. The Chevalier bethought himself that in his reduced circumstances he could not do better than accept this novel means of earning his livelihood. His salads became celebrated, and were expensively paid for, and finally the Chevalier returned to his country with enough to buy a large property out of his earnings. The veracity of this story might appear rather doubtful if Brillat-Savarin had not related it before Alexandre Dumas.

As to the dictionary itself, it is no doubt the most complete work of this kind hitherto published. The writer has given not only his own receipts, but those of others; and he has been assisted in the judicious selection of these by the most competent *chefs* of the day, among others by M. Vuillemot, the famous Carême's favourite pupil. The method is simple enough: all dishes, compounds, mixtures, fruits, etc., are classed by alphabetical order; the author gives first his own receipt and ideas on the subject, and then offers others for the choice of gastronomists difficult to please. Not even the way of stewing swallows' nests is forgotten. If we open the dictionary at the letter E, we find

the divers ways of stewing *escargots* severally enumerated. Dumas rightly charges the English with barbarism for despising the snail—of course the vineyard snail—the principle of one of the most delicate dishes, proscribed from English tables by sheer prejudice. Nothing can possibly be more delicious than *escargots à la provençale*. The same letter contains a receipt for the preparation of elephant's feet, furnished by M. Duglerez, Baron de Rothschild's *chef*; and as the simplest food is not to be neglected, there is also a minute prescription for cooking a beef-steak, which, however delicate an elephant's foot may be, is more easily procured. The proper stewing of a steak is not so simple as may be generally thought. For his part, Alexandre Dumas asserts that it is uneatable unless cooked—not in a frying-pan, but on a gridiron; the steak must be dipped in oil previous to its being laid on the fire; it is not to be touched a single time until cooked, except to turn it over, and on that important operation the author gives some very minute instructions. On the subject of truffles he waxes enthusiastic: "What can be more exhilarating, more divine, than *truffles aux champagnes*? Take a pound of truffles, pour a bottle of *Ai moussoux* into a saucepan; throw in the truffles, together with a little salt, and let them boil in the wine for half an hour; then serve them hot on a snow-white napkin. Who could resist the power of this composition, which charms the palate and tickles the fancy? How its enchanting aroma caresses, flatters, and rejoices! Do you see that greedy magistrate ecstatically savouring the perfumed molecules of Sarlat truffles? One would think he sat at the table of the Olympian gods. His sparkling eyes express an unspeakable satisfaction which is the certain omen of a happy digestion."

It would be difficult to enumerate all the good things of the *Dictionnaire Gastronomique*. They are written by a *gourmand* of the old stock, who would have been a *chef*, had not destiny made of him a novelist. At the same time, the book offers some striking instances of Alexandre Dumas' knowledge of English. Turning to the letter A, and looking for the word "Ale," the following definition, given with imperturbable coolness, will be found: "*Ale*.—This English word, which means *all*, designates for the English a liquid which, according to them, can replace all others." This is Dumas all over. *Punch* could scarcely find anything better.

C. B.

## DISEASES AND DEFECTS OF WINE.

PAPER III.

---

**MUCOUS FERMENTATION.**—Mucous fermentation or ropiness (*la graisse, o engorduramento, etc.*), is a peculiar morbid affection, more common in white wines of weaker lymphatic temperament than in others of stronger constitution. It is very common in Champagnes. In this disease the wine turns slimy, with a greasy oil-like texture. Like oil and treacle, it has a tendency to run thick and ropy, without the sound natural to fluids of watery consistency when poured from a height; the taste is mawkish and insipid. The alcoholic strength, however, remains unimpaired, and the wine often recovers itself spontaneously, under the influence of a fall in the temperature or by the mere mechanical effects of agitation. Cœnologists vary greatly in their opinions respecting the origin of this disease. Some attribute it to imperfect fermentation, due to the use of mixed sets of grapes; others, to superfetation in the parent vine, caused by peculiarities in the soil or in the stock. Maumené believes it depends upon a deficiency of alcohol in the wine, and an hydration of certain albumenoid substances contained therein. Pasteur attributes the affection to the presence of a particular mycoderm which, under the microscope, has the appearance of strings of bead-like globules, destitute of articulations. Most writers agree in regarding the affection as peculiar to white wines, although M. de la Vergnette Lamotte relates a case which came under his observation in 1845, where a late-made red wine from very imperfectly ripened grapes, out of a vineyard which had been touched by the frosts in May, showed all the symptoms of ropiness during initial fermentation in the vats.

Our author observes that white wines of a high class, which abound in sugar, and have been well made and fermented, never turn greasy. On the other hand, immature fruit, in bad seasons, always ferments ill, and yields a wine, which, even in winter, is deficient in sweetness and astringency, and in summer is peculiarly apt to turn ropy. The disease, he holds to be caused by a particular variety of ferment, and to be promoted by an excess of albumenoid matter present in solution in the wine.

Upon one point, the mode of treatment best suited to the pre-

vention or cure of the disease, most authorities are pretty well agreed. There is an old and a new mode of treatment, and both are susceptible of advantageous application.

Agitation of the wine in contact with the air, and "brandyng," the operation in either case being succeeded by a vigorous "clearing" with white of egg or gelatine, constitute the old-fashioned mode of treatment.

Modern practice includes the employment of *tannin*, or of the *tannic-alcohol*, described in a previous article on "Brandy in its relation to Table Wines,"\* in the pages of this journal; and the "Heating" and "Refrigerating" processes alluded to in the introductory paper of the present series.

It must be observed that "sulphurisation" is unsuitable to wines affected with ropiness. The sulphurous acid evolved in the combustion of the brimstone, deprives the wine of the oxygenating action of the air, which is peculiarly necessary to it. Consequently, sulphurisation must be carefully avoided in all cases of mucous fermentation.

**SOUR-SWEETNESS.**—The last malady requiring notice is *Agredoce*—literally "sour-sweetness"—the most formidable of all the diseases affecting Portuguese wines, and the more to be dreaded on account of the partiality which it invariably betrays for wines from the best soils, and of the finest vintages. It is a curious fact that this peculiar form of malady, so well-known in Portugal, has hitherto remained unnoticed by any œnological writer, even by those best acquainted with the Douro wines.

Our author admits his inability to furnish a satisfactory prognosis of the disease, but he expresses a confident belief that it cannot be fairly classed with any of the maladies just described. He says:—

"The conditions under which 'sour-sweetness' makes its appearance, lead to the inference that it differs essentially from 'acetation,' to which malady, however, it bears most resemblance. In unusually hot seasons, when the grapes have attained to an unusual degree of ripeness, when the *must* is very thick and full of sugar, when the vintage has been conducted beneath a scorching sun, and the temperature of the *must* has risen to excess during vinification; then, and more particularly in wine grown in localities specially exposed to solar action, 'sour-sweetness' shows itself."

The disease appears not only in the tanks and vats during vinification, but months afterwards, in the cellars at Oporto, and sometimes even in England, after the wine has been two or three years in bottle. The liquor becomes dark, turns, and acquires a certain flavour of *sweetness*, co-mingled with a very disagreeable

---

\* *Food Journal*, July and August, 1871.

acidity. What may be the nature of the elementary changes involved in this particular form of vinous derangement, the Viscount does not pretend to decide. In regard of its proximate causes, he observes :—

“An inspissated condition of the *must*, and a comparatively high temperature at the commencement of fermentation, caused by the heating in the tanks of grapes picked beneath a scorching sun, rather than by direct atmospheric contact, are unfavourable to the regular development of fermentative action, and lead to a derangement of its attendant phenomena. The transformation of the sugar in the *must* is incomplete, and an acid is formed differing from those found in regular vinous fermentation, and rather resembling *lactic acid*.”

Derangement shows itself in wines thus made, either in the tank, or later, when the liquor is in cask or bottle, and appears to be caused by certain fermentaceous principles, which adhere to the wine in spite of “racking” and “fining.” A peculiar form of cyptogamic vegetation, stated to have been observed in “sour-sweet” wine, is held by our author to be a variety of alcoholic ferment supposed by Pasteur to exert a slow and deleterious action on sugar, and which sometimes is met with in beet-root *must*. In place of indulging in conjecture, the Viscount prefers to direct the further attention of growers to this disease. If it be really produced by inordinate saccharine richness of the fruit, or the presence of an exceptionally high degree of temperature during fermentation, it might, he thinks, be possible to obviate the evil by steeping the grapes in water before vinification. A word now remains to be said respecting the remedial measures necessary. In the Douro districts, where *agre-doce* holds the same position relatively as “bitterness” in Burgundy, several modes of treatment are pursued with wines affected with the disease. In some instances, the wine is “smothered” with brandy. The wine is thus cured, but is rendered so immoderately alcoholic, that it can only be used for mixing with other wine. Sometimes, again, it is “fined” with fuller’s-earth, allowing about 1 lb. to every 50 gallons of wine, and afterwards moderately “brandied.” Kaolin would, no doubt, be preferable to fuller’s-earth for this purpose. All things considered, our author inclines to believe “sulphurisation”—racking off the wine over the fumes of brimstone into fresh casks thoroughly impregnated with the same agent—to be the most effectual mode of arresting this disease.

DEFECTS IN WINE.—In concluding that portion of his work, which treats of the nosography of wine, the Viscount de Villa Maior offers a few remarks upon the most commonly prevailing defects. A short notice of these will form an appropriate termina-

tion to the present series of papers. Defects in wine, like diseases proper, generally originate in some neglect of proper hygienic precautions, and, although not so deleterious in their effects as diseases, are still apt, if neglected, to lead to very untoward results. Prominent amongst defects is *mustiness* which, like most other exoteric flavours, may be cured by a process of filtration through fresh vegetable charcoal, broken small, carefully picked over, and placed in a funnel inserted in the bung-hole of the cask designed to receive the wine. The latter should be "fined," and a small modicum of brandy should be added afterwards. Defects caused by the wood or glass of the utensils in which the wine is kept, may be treated in like manner. Wine filtered through charcoal generally loses colour, the charcoal being a powerful absorbent of colouring matters.

Some writers enjoin the use of oil, to be mixed in the proportion of one quart to the pipe, and well stirred up with the wine, which must afterwards be "fined" and racked off into a fresh cask. Pure oil is insoluble in wine and cannot, therefore, impart any flavour thereto; whilst, on the other hand, it readily absorbs the oily essences which give an ill-taste to the wine.

Since the use of sulphur as a remedy for oïdium has become common, it is no unfrequent occurrence to find dissolved in the wine a certain amount of sulphuretted hydrogen, produced by the brimstone adhering to the grapes during fermentation. This may be got rid of by stirring the wine frequently, and exposing it to the air; or by directing a current of carbonic-acid gas through it; or by "sulphurisation." Most growers prefer the latter remedy.

But against all the maladies and defects to which wine is heir, the surest antidote, apart from any direct preventative process, such as heating or refrigeration—is cleanliness—cleanliness at all times and all seasons, in all operations, great and small, of vintage and vinification, and during the whole after-existence of the wine, in cellar or in store, in wood or in bottle.

H. M. CHICHESTER.

---

**PRICE OF BUTCHERS' MEAT.**—The report of the Veterinary Department of the Privy Council for 1872 contains tables showing the number of animals in Great Britain, the fluctuations in the price of meat, number of imported animals, the meat supply, and foreign statistics. The importation of Australian preserved meat, though it has recently greatly increased, only now equals one-eighth of the total importation of dead meat. The average price of live stock was about one farthing per pound more than in 1871, but this is attributed to increased cost of labour. There is nothing in the report which gives any hope of a reduction of the price of butchers' meat; on the contrary, the statistics show that not only in Great Britain but in most European countries, there has been during the last fifty years a steady rise in the price of meat.



## DEFICIENT ALIMENTATION.

---

THE wear and tear upon the human system, no less than the constant waste arising from physical causes, render it indispensable that the body should be regularly sustained by suitable and sufficient regimen. According to a high authority,\* about 300 grains of nitrogen and 4,600 grains of carbon are daily discharged through the lungs, skin, etc., the proportion of the nitrogen to the carbon eliminated being as 1 to 15. Taking the two most important articles of diet, bread and meat, it will be found that 1,000 grains of the former contain 300 grains of carbon and 10 of nitrogen, while 1,000 grains of the latter hold 100 grains of carbon and 30 of nitrogen. In order efficiently to sustain nature on either of these edibles, it would be indispensable for an individual to consume, every twenty-four hours, more than 4 lbs. of bread, or else  $6\frac{1}{2}$  lbs. of animal food. Hence the great advantage of a mixed diet at once appears obvious. Hence, likewise, its adoption by mankind, whether civilised or savage. Thus it appears that in order to compensate for the periodical losses of the system in a healthy person, 2 lbs. of bread and  $\frac{3}{4}$  lb. of meat are indispensable. Dr. Dalton conceives that 16 oz. of meat, 19 oz. of bread,  $3\frac{1}{2}$  oz. of fat, and 52 oz. of water: that is to say,  $2\frac{1}{2}$  lbs. of solid food and a little over three pints of fluid, every twenty-four hours, are sufficient for maintaining health and strength; while Vierordt asserts that an adult is well nourished if he receives daily 4 oz. of dry albumen, 3 oz. of fat,  $11\frac{1}{2}$  oz. of some starchy substance, and about 1 oz. of salt, which gives a proportion of 1 part of nitrogenous to  $3\frac{1}{2}$  parts of non-nitrogenous food. Undoubtedly there are exceptions to every rule, and therefore, the absolute quantity of aliment required for the sustenance of the human body must depend upon the age, sex, constitution, and habits of the individual. Nor must climate be left out of consideration.

"One half the population of this teeming country knows not how the other half live." This is by no means an exaggerated assertion, more especially in our large cities. The struggle for existence, always difficult, is becoming more and more severe. The original "curse" possesses more than its original significance:

---

\* Dr. W. B. Carpenter. "Principles of Human Physiology."

for the condition of things has changed, while the population of our globe has immeasurably augmented. Indeed the marvel is how the earth we inhabit can be rendered sufficiently productive to satisfy the increasing demands of the human race. But while it happens that there is "enough and to spare" in this respect—for Nature is bountiful of her gifts—the bulk of every population under the sun lives, to use a trite but true simile, "from hand to mouth." In all countries, but more especially in Christian England, it is the few only who may be said to "feast sumptuously every day." For "the hewers of wood and drawers of water," for those who ought to earn sufficient bread by the sweat of their brow, there is, unhappily, little save labour, travail, and semi-starvation.

Look at the mass of our rural population. See how they live and move and have their being! It is scarcely possible to comprehend the social degradation of a class who are of such paramount importance to the nation, or upon whom its progress is so dependent. Talk of living! Such do *not* live in the proper sense of the word. They might, indeed, well envy the brutes they see around them. As a rule the brutes are better fed and housed. There was a time in English history when the agricultural helot was not so badly off. In the rare old days of English husbandry, the farmer and his men lived under the same roof, ate at the same table, participated in the same amusements. Not only so, but the latter had plenty of meat and fish to eat, good beer to drink, and, according to Chancellor Fortesque, "wore fine woollen cloth in all their apparel." But the poor husbandman's condition has sadly changed for the worse. The only hope of permanent amelioration for his class consists in the success of an agitation, which has evoked much public interest and sympathy. How, let me ask, is it possible for a labourer to support himself and bring up a family upon *nine* or even *fourteen shillings* a week? If he fail to provide by his honest industry a fair supply of the *primary* necessities of life, how is he to obtain means to meet the *secondary* wants? He does not, and, what is more, he cannot. A mock breakfast, consisting of a modicum of flour with a little butter, and water from the "tea-kettle" poured over it; a mid-day meal of a piece of bread and cheese; a dinner of a few potatoes, eked out, mayhap, now and then, with a piece of bacon; and a comfortless supper of bread and water, form a dietary too sparing for any class to uphold vigour upon. Such a starvation regimen is destructive, not alone to strength and activity, but to manly ambition and hope. As has been pertinently observed—"Physical privation means moral degradation. Insuffi-

ciency of food implies deficiency of everything that is necessary to the comfort and decency of domestic life."\*

A few years since the Privy Council directed a medical inquiry to be made into the nature of the food upon which the poorer classes contrive to live. This was consequent upon the "Starvation Diseases," as they are termed, that suddenly supervened upon the Lancashire Cotton Famine. It was then found that more than a fifth of the agricultural population had less than the estimated bare sufficiency of *carbonaceous*, and more than a third less than the bare sufficiency of *nitrogenous* aliment; the standard in case of a man being 4,300 grains of carbon and 200 grains of nitrogen. With a sparse diet necessarily follows physical deterioration. In a word, so deplorable is the degradation, especially of the husbandman's "surroundings," that, to quote the terse language of an official report, "To children who are born under its curse it must often be a baptism into infamy." Surely, if any people may be said to dwell in the valley of the "shadow of death," it is those millions of souls who drag on a lingering life of privation and misery,—for whom bland Charity has no pity, to whom bright Christianity holds forth no hope!

Unfortunately a large proportion of our town populations fare no better—possibly many of them fare far worse—while labour is superabundant, work precarious, and often ill-requited, provisions dear, clothing expensive, and rents high. The social philosopher who roams about the secluded streets, lanes, and alleys of England's great metropolis will see quite enough to convince him that there is "something rotten" somewhere; that the "body of our kingdom is distempered," needing something more than "good advice and little medicine" to effect a cure. He will observe numberless squalid houses, let out in tenements, thrown together in neighbourhoods the very atmosphere of which reeks with pollution. Stunted, deformed, diseased, horrifying specimens of humanity of all ages, will ever and anon meet his shrinking gaze; people on whose angularly-marked, pinched countenances penury and privation are deeply and indelibly imprinted. And to what is this sad state of things mainly attributable? Why, to the deprivation of that food which is necessary to the due sustentation of animal life. That our London poor, more especially, are becoming daily deteriorated is beyond dispute. The records of the public hospitals amply testify to the evil effects consequent upon a spare, coarse, and unwholesome diet. Poor married

---

\* "Landlordism, in its Moral, Social, and Economic Relations." By David Syme.

women suffer immeasurably from this cause, and, alas! convey the active seeds of congenital diseases to their unhappy offspring. The dregs of our population—and they may fitly be called “dregs”—are often condemned for flying to the gin-shop, and there expending their scanty pence in the purchase of alcoholic poison. But there is much to be said in extenuation of this terrible tendency. The absence of proper food, no less than the close, fœtid air they breathe and the miserable dens they inhabit, produces an artificial, albeit unnatural, craving for stimulants, which they would be more than human could they resist. Joined to this, the physiologist Chossat\* observes, from experiments made, “that insufficient nutriment produces an incapability of digesting even the smallest amount consumed, as though the vital powers were not able to supply the requisite gastric fluid when the body began to get enfeebled through insufficient nutrition.” There is one remarkable characteristic of the semi-destitute poor of London, viz., that they evince dogged contentment with their pitiable and forlorn condition. This the late Dr. Southwood Smith† points out as being most fatal to any efforts made for their improvement, rendering their state hopeless, their condition chronic. No doubt it is through this dreadful indifference that the labours put forth to raise such out of the mire by various philanthropic associations, fail of their effect.

Provided an ample supply of wholesome nourishing food be not regularly received into the human system, the blood in time becomes impoverished. A variety of ailments supervenes. Not only does the sanguineous fluid turn watery, but diseased; and in lieu of being the fountain of life, it becomes metamorphosed into the stream of death. Why is it that scrofulous disorders are so rife among the children of the indigent? Why is it that they are wan, weak, and rickety; or that their growth is suddenly arrested? Simply because of deficient alimentation. Partially, I apprehend, to the like cause is attributable the ophthalmia which last year was so prevalent amongst the pauper school children at Mitcham, Islington, Anerley, and other places. The school managers refused to recognise the real cause of the infectious disorder, which may properly be charged to injudicious or deficient feeding, augmented by a foul atmosphere. According to the *Lancet*, “It is quite impossible to congregate this class of children in large buildings without giving rise to a disease which is the most delicate test of overcrowding and impure air.”

---

\* “Recherchés Experimentales sur l’Inanition.” Cited by Dr. Carpenter.

† “Health of Towns’ Report.”

In many instances the wages-earning classes do not get sufficient money to enable them properly to support life. This is due partly to the force of competition; partly to the fact of labour being a drug in the market. The chief necessities of life having risen in price adds to the difficulty. As a rule, woman's work is ill paid. If entirely dependent upon their labour and earnings, the weaker sex find it hard to procure a bare sufficiency of the commonest and coarsest food. Then we must not overlook the so-called "genteel" orders, who, not unlike the honoured village parson immortalised by Oliver Goldsmith, are "passing rich" upon ridiculously small annual incomes. I speak of the general body of clerks occupied in merchants', lawyers', and government offices, albeit there is a host of needy professional men engaged in the like fierce strife,—namely, how to uphold decency and respectability upon very inadequate resources. To achieve these objects, however partially, pre-supposes no slight self-denial, involving, in fine, sheer deficiency of diet, and the grave results that ensue. "When," remarks the *Times*, referring to the Food Question, "it is considered that within the memory of man the greater part of the population of this island were unacquainted with good wheaten bread, that only a generation ago the potato was the food of Ireland, and that fresh animal food is still the luxury of the few,—when, too, it is further considered that with poverty of food there comes poverty of spirit, reaching to body and soul,—the food supply becomes a great moral and political question." And that such is the case none can gainsay. If "Righteousness exalteth a nation," so does an adequate supply of food, easily obtainable, preserve a nation. I shall conclude this tentative article in the words of Dr. R. B. Todd :\*—"Our choice of the exact quantities and qualities of alimentary substances necessary to construct a perfect scale of diet may, indeed, be sometimes explained by chemistry; but it must always be dictated by experience: and the dietaries of gaols, workhouses, and hospitals, corrected as they have too often been by the ghastly hand of Death himself, have fixed the limits of the food necessary for health with an accuracy which, considering the price of human life that has been paid for it, ought surely to satisfy the most rigid economist."

S. PHILLIPS DAY.

---

\* "Cyclopædia of Anatomy and Physiology," vol. v.

## FOOD SUPPLY IN SYRIA.

---

THE explorations of Captain Burton in Syria\* reveal to us a series of facts regarding the food supply of that district which are entirely new to Europeans. The first is the innutritious and disagreeable character of the food consumed by the majority of Syrians; the second is the wondrous capability of the soil in most localities to produce articles of diet. The meat supply deserves our first consideration.

The thin lean sheep which is found in the neighbourhood of Damascus, and on which so many of the European residents find difficulty in preserving life, is perhaps, in a chemical sense, the worst mutton in the world. Destitute of fat, and skinny to the last degree, it is almost the only form of meat which is consumed by the Damascenes. There are localities near the hitherto unexplored regions of the Tulul el Safá, where the dry beds of the so-called lakes of Damascus are here and there white with a saline efflorescence, and all the sheep fed upon the grass would become nearly salted during life, as in Northern France, where mutton is now almost unknown.

The goat is a more nutritious article of diet, though often the price charged for goat's flesh is exorbitant. At a locality in the centre of the Anti Libanus the travellers had no difficulty in procuring milk and in buying a kid. The driver took 55 piastres, bluffly remarking, "That is the way I sell them."

"Our men spent the early night in cooking and eating the unusual delicacy: the animals on the Jûra, covered with fat about an inch deep, contrast wonderfully with their lean dry brethren of the plain. Mohammed the Shikari anointed his slippers with the adipose tissue, which, despite all his *bonne volonté*, he was unable to consume."

The colour of these goats is a singular fact to the zoologist, and Mr. Tristram ("Land of Israel," p. 608) says that upon the Libanus any other colour than black is rarely met with. Captain Burton found the contrary to be the case; the goat, like the negro, waxes fairer in the higher and consequently less heated altitudes.

In another locality near Hums, in the 'Alah, or Highlands of Syria, notwithstanding that the sheep and goats are continually on the move from sunrise to sunset, and that the pasturage con-

---

\* "Unexplored Syria." By Captain R. F. Burton, F.R.G.S., and C. F. Tyrwhitt-Drake, F.R.G.S. London, Tinsley, 1872.

sists only of scattered stalks of withered grass, these animals are even fat, owing, as Burton imagines, to the perfect way in which their food is digested. At midday they are usually taken to water, and if this is not done, numbers of them die in consequence. The bovine race, as may be expected, is comparatively scarce in Syria, and its flesh is not extensively used for purposes of food.

In spite of the Moslem and Jewish laws against the consumption of pork, the wild pig is found in many localities, and forms a surreptitious and wholesome article of diet amongst the Syrian Christians.

We now turn to the vegetable productions, which are far more numerous than those from the animal kingdom. Prolific crops of cereals are to be found in nearly every locality. In some places, it is true, that they are not of large size. A part of the Anti Libanus is covered with upland wheat, a pigmy growth of a few inches; on one of these Captain Burton counted eight heads, only bearing a small horny grain, too hard for man's teeth. The slopes of many districts are overgrown with the *Sha ir barri*, or wild barley, a true oat, which shows that here, as in India, the civilised species can be introduced. It is a plant of many names—*Shúfak*, *Kháfak*, *Salaysalah*, and *Sasaybáu*. This *Avena* will grow in the hottest parts—for instance, upon the Ghuwayr (Little Ghor), north of Tiberias. Tobacco is cultivated extensively, the snuff manufactured at the convents at Nazareth being probably superior to that of any other district in the world. Of a delicate aromatic flavour, with great strength and pungency, this finely pulverised nasal condiment deserves the attention of connoisseurs in Europe.

The spirituous liquors of the district of Mount Lebanon have been much praised. The *Raki* is of very fine flavour, and the *Vino d'oro* is of a high quality. But it must be remembered that the absolute alcohol in the *Raki* is so small that it will not burn in the traveller's lamp, and those who wish to have light for their philosophical instruments must never forget to take spirits of wine from England.

The wild pear and almond are very common, as also the *Unayb* (little grape), a bilberry (*vaccinium*), whose gratefully acid currant-like fruit is here used for pickles. The *Khubbayzah* (a malow) follows the footsteps of man, and is found only about the villages and ruins; it is extensively used by the peasantry in years of dearth. This mallow must not be confounded with the "Jew's Mallow" (*Corchoris olitorius*, in Hindustani, Bhendi and in Arabic Mubukhiyyah), which is so much cultivated in Egypt and Syria. The yellow-flowered *Hindibah*, with edible leaf like the lettuce (an endive?); the *Shank Urs'auni*, called *Arba'aniyyah* in the

Libanus, is also an azure kind, eaten in *Salattles* (soured milk with cucumber and other vegetables); the *Shank el Dabbées*, or knob-stick thistle, contains in its large lavender-coloured head an edible kernel; the *Mureár* and the '*Akkúb* are remarkable for ball and spikes, with a leaf broader than usual; whilst the latter is much prized, especially by the Jews of Tiberias and Safet. It is, in fact, a wild artichoke, and far superior in flavour to the cultivated species. These are all plants entirely unknown in Europe, though growing wild in Syria, and forming a large part of the diet of the inhabitants.

The division of meals is simple. A breakfast, generally of cheese, soured milk, grape syrup, raw green onions, boiled rice, wheaten scones, and eggs fried in clarified butter, is served shortly before noon. The stranger may drink his own wine, and produce cold meat from his saddle bags; but the latter proceeding is not complimentary to his amphitryon. At sunset flesh is usually added to the noonday material: a kid is a prime sign of honour; but the wayfarer may fall asleep before it is cooked. At both meals one of the family stands up, holding a metal pot full of drinking water. Pipes and coffee, with or without sugar, conclude, as they commence, every movement. The sympathetic traveller will compel the Shaykh and the chief notables to sit at meat with him; and the followers and retainers will eat from the tray when removed to another part of the room. Signs of repletion, once so common, are now going out of fashion.

Respecting the future of Syria, Captain Burton seems more hopeful than when describing the past or present. He ventures to predict that Syria and Palestine still await the hour when the home of a free, a striving, and an energetic people, they will again pour forth corn and oil, flow with milk and honey, and bear with proper culture almost all the good things which have been given to man.

C. CARTER BLAKE.

---

THE *German Pharmacopæia* gives an excellent test for the genuineness of raspberry syrup. If one volume of the latter is mixed with half a volume of pure nitric acid (25 per cent.), the fine red colour of the syrup must not change to yellow, otherwise the syrup owes its colour to some dyestuff, which has nothing to do with raspberry fruits. A syrup which contained only a small quantity of artificial colouring matter remained 24 hours unchanged, and only after this time showed a yellow colour; while genuine syrup, when treated with nitric acid, even after three days' standing, showed no change of colour. It is indispensable that the experimenter should be very careful as to the measurement of the volumes. Dr. Hager states, besides, that syrup coloured with aniline becomes colourless when treated in this manner with nitric acid.—*Chemist and Druggist*.



HORRORS OF OPIUM.—PART IV.

---

WHILST both willing and anxious to credit the Chinese executive with the possession of an honest desire for the abolition of the odious traffic on account of its demoralising nature, it is impossible to ignore other motives by which the authorities were also actuated. In former years, when as yet the imports of opium were comparatively limited, a considerable portion of our tea shipments was paid for in silver, but as a natural result of the expansion of the opium trade matters at length came to be reversed. The mandarins viewing the drain of treasure from their country as a national grievance, it was denounced to the emperor as occasioning "an oozing out of silver, whereby the fathomless gulf of the outer sea will soon become the receptacle of the easily exhaustible wealth of the central spring." We are thus in a measure justified in believing that some of the councillors at Peking would have continued to regard the demoralising effects of opium on the masses not only without much solicitude, but with comparative indifference. But the drain of *syccé* was to them a serious evil to be no longer endured. As a class the military mandarins seem to have been troubled with few twinges of conscience as to the morals of the million, but they trembled at the increasing exodus of Chinese bullion. It has also been ascertained that, at this momentous period, another influence which determined the policy of the emperor, was jealousy of British advances to the south-western frontier, and on account of their progress in Central Asia.

When Commissioner Lin converted the seized opium into mud he fancied that the traffic in the drug was at an end, but when he discovered his error, and the dogs of war were let loose, his proceedings against every one connected with opium assumed the most Spartan rigour. Those detected in the illegal traffic were decapitated or strangled at once; others found smoking opium, or having the implements for the indulgence in their possession, were condemned to the cangue and banishment; but all his severity proved of no avail. Whilst his troops were feebly opposing the British arms on shore, the swift, heavily-armed opium clippers were harrying the Imperial gun-boats from Chinese waters, and defiantly and successfully landing their noxious cargoes, so that, as contrasted with the consumption of 1837, which was 34,000 chests, this first year of hostilities accounted for 40,000 chests of the poison.

On the termination of the unequal struggle in 1842, included in the war indemnity exacted was a sum of 1,250,000*l.* as the awarded value of the opium destroyed by Commissioner Lin ; which amount was ultimately paid to the merchants interested.

It is well to record that the traffic in opium, the war just alluded to, and the struggle which followed later, were regarded with grief and abhorrence, and had been met, in this country, with the most determined opposition from every professing Christian and true philanthropist. But the evil deeds committed by rulers always cling to and defile the character of a people long after the sin has been repented of ; thus the innocent suffer with the guilty. That there are some men base enough to defend the opium traffic even now—and thus perpetuate the load of infamy heaped on the British name—we know ; that there are vast numbers who have not only never countenanced, but on the contrary have continually repudiated and opposed it, we believe ; but until the majority of our population rise in their indignant majesty, and, through their members of Parliament, demand the suppression altogether of poppy cultivation in India, this legacy of disgrace must remain a bar sinister on the national escutcheon.

As might have been anticipated at the close of such a conflict—conducted under divided councils and without sincerity on the one side, and prosecuted with a lamentable pertinacity for an evil end on the other—the opium traffic, the bone of contention, in place of suffering, increased exceedingly. The craving for the drug had obtained a firm hold on the nation ; it yielded a comfortable, easily collected item of revenue for India ; its conveyance afforded lucrative employment to our steamers, and the care of the poison snug berths on board the opium hulks to those of our superannuated sea-captains who had settled in China, and who had so far abandoned all sense of shame as to become its custodians. Every one connected with, or remotely interested in, the flagitious traffic was prepared with a mouth full of sophistry in its defence ; the strongest argument being that if they abandoned the trade the representatives of other nations would eagerly seize it ; so, why should they make a sacrifice which would ruin them and unhinge a material item in the Indian budget, without in the least benefiting the Chinese ? With exultation the promoters of the dastardly trade pointed to the fact that, in 1865 out of the entire revenue of India, namely, 48,514,749*l.*, the enormous sum of 8,518,264*l.* had been derived from opium ! Were the members of the India Council prepared to abandon eight millions and a half of income by ceasing to produce the drug ? That such a sacrifice would prove an impotent measure

they deduced from the fact that nearly\* two-thirds of the rich and fertile Chinese province of Szech-uen and one-third of Funan were, in 1869, under opium cultivation!

It has long been a fashion, too, among writers who defend the opium traffic, to assure us that the smoking of the drug by the Chinese is far less detrimental to the moral and physical health than the consumption of brandy and gin at home: that many opium debauchees live to a great age, while dram drinking always induces disease, bodily suffering, evil-temper, wretchedness, and premature death! Even at the worst—they are in the habit of adding to a halting catalogue of crippled arguments—"The abuser of opium is merely in a passive state, satisfied with his own dreamy condition while under the influence of the drug, useless, but not mischievous." However successfully such fallacy-mongers may have imposed on themselves and on the minds of their sophisticated believers, lovers of truth and searchers after facts have now melancholy reason to arrive at widely different conclusions. It is admitted by the best informed among both Europeans and Asiatics that the habitual use of opium is as insidious as it is noxious and baleful, yet the trade in this loathsome drug has now assumed dimensions which completely dwarf those it possessed before the war.

We, as a nation, have chosen to tamper with a foul poison; to throw around it the halo of British protection, and to rush in greedily to gorge ourselves with its unhallowed gains. The Chinese are far from guiltless; yet among this highly cultivated people there is a force of public opinion which from an early period has been inimical and antagonistic to the use of opium in any form whatever. We, through one of our learned societies,† have bestowed rewards on persons for success in the cultivation of the drug; they, through their more enlightened statesmen, have denounced and continually fought against the importation of opium. We, Christians, persist in growing, preparing, and thrusting the pestilential and venomous narcotic into their country, to the

---

\* See Sir Rutherford Alcock's despatch to Lord Stanley on the cultivation and taxation of opium, dated February 16, 1869.

† In 1798, Mr. John Ball, of Wilton, received 50 guineas from the Society of Arts for procuring the drug in an unsophisticated state from British grown poppies, and communicating his mode of preparation for 'the use of the public. In 1800, Mr. Jones, of Fish Street Hill, London, was awarded a similar premium, his native opium having been considered equal in quality to the best foreign drug; and in 1819, Mr. Young, a surgeon, of Edinburgh, received the gold medal of the Society of Arts "for the successful cultivation of the poppy and preparation of opium at home." This gentleman had so far improved his method of husbandry and manipulation that in 1830 he obtained at the rate of 56 lbs. of the drug per acre, which sold for 30s. per pound.

utter demoralisation of every being who yields to its fatal seduction. They, heathen as they are, have enacted the most stringent laws for the suppression of the vice, whilst their literati unceasingly write against it. We, through our missionaries, are endeavouring to evangelise the Chinese, to instil the curative influence of Divine truth into their souls, whilst our Executive sanctions the infection of their bodies with opium. Is it to be wondered at that a system of commercial, social, and political relations, founded on fraud, bloodshed, and blasphemous mockery, should sometimes result in the horrors of a Tientsin massacre? In short, the self-sacrificing efforts of our gospel pioneers are paralysed by the lust for gain exhibited by the foreign merchant, so that he, instead of proving a buttress to missionary effort and a promoter of civilisation, is too frequently a demolisher of the one and a clog upon the other.

As the most recent specimen of the light in which the opium traffic is regarded by the Chinese Imperial authorities, I shall conclude by quoting an official note from the Foreign Board of Peking to Sir Rutherford Alcock, dated July, 1869, which appears in the Report of the East India Finance Committee already alluded to. It states:—

“The writers have on several occasions, when conversing with His Excellency the British Minister, referred to the opium trade as being prejudicial to the general interests of commerce. The object of the treaties between our respective countries was to secure perpetual peace, but if effective steps cannot be taken to remove an accumulating sense of injury from the minds of men, it is to be feared that no policy can obviate sources of future trouble. Day and night the writers are considering the question with a view to its solution, and the more they reflect upon it the greater does their anxiety become, and hereon they cannot avoid addressing His Excellency very earnestly on the subject. That opium is like a deadly poison, that it is most injurious to mankind, and is a most serious provocative of ill-feeling, is, the writers think, well known to His Excellency, and it is therefore needless for them to enlarge further on those points. The Prince” (the Prince of Kung is the president of the Board) “and his colleagues are quite aware that the opium trade has long been condemned by England as a nation, and that the right-minded merchant scorns to have to do with it. But the officials and people of this empire, who cannot be so completely informed on the subject, all say that England trades in opium because she desires to work China’s ruin; for, say they, if the friendly feelings of England are genuine, since it is open to her to produce and trade in everything else, would she still insist on spreading the poison of this hurtful thing through the empire? There are those who say stop the trade by enforcing a vigorous prohibition against the use of the drug. China has a right to do so doubtless, and might be able to effect it; but a strict enforcement of the prohibition would necessitate the taking of many lives. Now, although the criminals’ punishment would be of their own seeking, bystanders would not fail to say that it was the foreign merchant seduced them to their ruin by bringing in the drug, and it would be hard to prevent general and deep-seated indignation; such a course, indeed, would tend to arouse popular anger against the foreigner. There are others, again, who suggest the removal of the prohibitions against the growth of the poppy. They argue that as there is no means of stopping the foreign opium trade, there can be no harm, as a temporary measure, in withdrawing the prohibition on its growth. We should thus not only deprive the foreign merchant of a main source of his profits, but should increase our revenue to boot. The sovereign rights of China are indeed competent to this; such a course would be practicable, and, indeed, the writers cannot say that, as a last resource, it will not come to this; but they are most unwilling that such pro-

hibition should be removed, holding as they do, that a right system of government should appreciate the beneficence of Heaven, and seek to remove any grievance which afflicts its people; while to allow them to go on to destruction, although an increase of revenue may result, will provoke the judgment of Heaven and the condemnation of men. Neither of the above plans, indeed, is satisfactory. If it be desired to remove the very root, and to stop the evil at its source, nothing will be effective but a prohibition to be enforced alike by both parties. Again, the Chinese merchant supplies your country with his goodly tea and silk, conferring thereby a benefit upon her; but the English merchant empoisons China with pestilent opium. Such conduct is unrighteous. Who can justify it? What wonder if officials and people say that England is wilfully working out China's ruin, and has no real friendly feeling for her. The wealth and generosity of England are spoken of by all; she is anxious to prevent and anticipate all injury to her commercial interest; how is it, then, she can hesitate to remove an acknowledged evil? Indeed, it cannot be that England still holds to this evil business, earning the hatred of the officials and people of China, and making herself a reproach among the nations because she would lose a little revenue, were she to forfeit the cultivation of the poppy! The writers hope that His Excellency will memorialise his government to give orders in India and elsewhere to substitute the cultivation of cereals or cotton. Were both nations to rigorously prohibit the growth of the poppy, both the traffic in and consumption of opium might alike be put an end to. To do away with so great an evil would be a great virtue on England's part; she would strengthen friendly relations, and make herself illustrious. How delightful to have so great an act transmitted to after ages! This matter is injurious to commercial interests in no ordinary degree. If His Excellency, the British Minister, cannot, before it is too late, arrange a plan for the joint prohibition of the traffic, then, no matter with what devotedness the writers may plead, they may be unable to cause the people to put aside ill feeling, and so strengthen friendly relations as to place them for ever beyond fear of disturbance. Day and night, therefore, the writers give to this matter most earnest thought, and overpowering is the distress and anxiety it occasions them. Having thus presumed to unbosom themselves, they would be honoured by His Excellency's reply."

Comment on this significant document surely is unnecessary.

In a niche within an old Christian church near the ruins of the temple of Vulcan, on the coast of Asia Minor, there is a flame which has, it is believed, been perpetually burning for several thousand years. The Chimæra has been described by Ctesias, Strabo, Seneca, and Pliny; yet long ere these sages lived and wrote, or the burning springs of Lycia were known, China possessed a pure and moral literature and simplicity of life which elevated her people as much above the other nations as she has now sunk beneath them. Opium; with its attendant evils, has almost obliterated the nobility of this ancient people, as brandy and absinthe have prostrated the French. But as the Chimæra still flickers above a cleft in the serpentine rock in that old decayed Byzantine church, diffusing a pleasant odour among the mouldy ruins around, let us trust that the imperishable seeds of civilisation and religion, sown by our missionaries in the Flowery Land, only await the advent of a purer age to fructify into life, when the Indian Government, British merchants, and Chinese mandarins shall have finally abolished the atrocious traffic in opium.

WILLIAM COCHRAN.

## MARKETS OF THE MONTH.

---

HAVING at last experienced congenial weather, nature has put on apparel becoming to the season. Our orchards are resplendent with masses of delicately tinted pink and white blossoms, and with a certain amount of assurance one may venture to cast the horoscope of the fruit harvest. Taking into consideration the vicissitudes essential to the circumstances of the case, I think I may predict, from the almost universal abundance of blossom, a good year for fruit of all kinds; although in some districts the apple crop will not be heavy. Information from Australia reports an abundant harvest; and the knowledge of this circumstance will have the effect of preventing any rise in the price of flour for the present at least. Not only are our corn markets ruled by the harvests of European countries, but America, and of late years Australia have become the granaries of England; and having regard to the high price of meat, it is satisfactory to know that, if our farmers should devote their attention entirely to stock, almost all the world is able and willing to grow corn for our consumption. No change has taken place in the meat market; but hot weather may be expected to cause some slight depression. The sugar market is very dull, sales are forced at even lower figures than ruled last month. The coffee market has been active, prices are higher.

Attention has been called to the increase of the cultivation of the poppy in China, notwithstanding the prohibitory enactments of the government of the country, a fact which, it is said, is calculated eventually to annihilate the lucrative monopoly we enjoy as regards the opium trade in the East, a matter which may not, perhaps, from one point of view (the philanthropic), be regarded as a calamity; but if the celestials still continue to indulge in the noxious drug, growing it for themselves, we shall certainly no longer minister to their indulgence in a degrading habit, but the philanthropist will still have to deplore its existence as extensively as before.

The fish market has been well supplied with fish; but salmon has been dearer than is usual at this time of the year. Turbots and brill, soles and whittings, are cheaper. Shad is now in season,

and an excellent fish it is, broiled and served with caper sauce or stewed *en matelotte*. Alas! it is but seldom seen on English tables; in France, however, it is welcomed with delight; it is said to combine the delicate flavour of the mackerel, with the richness of the salmon. Smelts, mackerel, plaice, haddocks, mullets, John Dorys, eels, skate, codlings, gurnets, lobsters, and crabs are also now in season. The supply of mackerel from the Cornish coast has this year not been so plentiful as usual; in a few weeks they will be caught off the east coast, then they will become cheap, in consequence of the increased supply.

The potato market is brisk for foreign, and good qualities of home growth are making as much as 13*l.* per ton. Oranges are now becoming dear, the only good kinds on sale are Valencias, from 3*l.* to 5*l.*, and Palermo sours, from 4*l.* to 6*l.* per 1,000. Lemons continue very good, but are gradually becoming dearer, price is from 85*s.* to 105*s.* per 1,000. Covent Garden is plentifully supplied with the luxuries of the season; the first appearance of cherries in boxes occurred on the 18th inst., price, of course, for the few arrived was something extraordinary. I will only notice amongst other delicacies green peas at 10*d.*, and new potatoes, forced, at 1*s.* and 1*s.* 6*d.*, Malta new potatoes, 2*d.* per lb.; Asparagus, from 5*s.* to 8*s.* per bundle; French beans, 2*s.* 6*d.* to 3*s.* per 100; cucumbers, from 1*s.* to 2*s.* each. French salads of all kinds are cheaper and more abundant than usual this season; new carrots are making 2*s.*, new turnips, 1*s.* 6*d.*, per bunch. Broccoli is large and plentiful, the hot days having matured the crops all at once. Forced pines are worth 14*s.*, forced strawberries from 14*s.* to 20*s.*, and forced grapes from 16*s.* to 20*s.* per lb.

Poultry is very scarce and dear; it would seem as if the prevailing mania for high prices must be strongly developed in the agricultural districts; for dealers at Leadenhall demand prices which are much higher than usual at this season, which, it should be remembered, is the dearest period of the whole year. Goslings are making from 8*s.* to 9*s.* 6*d.*; ducklings from 4*s.* to 6*s.*; capons, from 7*s.* to 8*s.* 6*d.*. Anything that can be called a fowl or a chicken is worth from 2*s.* 9*d.* to 4*s.* 6*d.*. Plovers eggs are plentiful, 3*s.* per dozen, boiled and warranted; quails from 1*s.* 6*d.* to 1*s.* 9*d.*; ruffs, 1*s.* 3*d.*; Rees, 9*d.*; godwits, 1*s.* 3*d.*; peahens, from 9*s.* to 10*s.*; guinea fowls, 4*s.* 6*d.*; leverets, 5*s.* 6*d.* to 7*s.* 6*d.*; pigeons from 10*d.* to 1*s.*

*April 19th, 1873.*

P. L. H.

NOTES OF THE MONTH.

---

THE terrible disease, named trichinosis, seems to crop up at short intervals in Germany, and the harrowing details of the sufferings endured by victims—repeated in Continental newspapers and translated into the pages of our own—serve to alarm and horrify the consumers of pork everywhere for a time. The consternation and loathing this malady creates is not without reason, because, until recently, it baffled the skill of the most accomplished physicians, and might still continue to defy the power of medicine, had not the simple and effectual remedy been discovered of administering to the sufferer hydrosulphide of potash, with boiled carrot, parsnip, or potato.\* Although well authenticated cases of death from trichinosis have hitherto been rare in this country, our increased traffic with Germany, where the disease is in a measure at home, ought to keep consumers of foreign pork and sausages continually on their guard. The sale of diseased pork, however, may be traced to other sinners than the German butchers. In Hamburg, towards the end of January, several cases of trichinosis appeared, which were attributed, by the local papers, to a consignment of bacon from America. The remainder was examined and found to be absolutely riddled with trichinæ, and was, of course, destroyed. But there are dangerous entozoa besides trichinæ, and fears have been entertained that the ova of similar parasites may injure our home population through the operation of the modern sewage farms at Croydon and elsewhere. In order to calm such fears Dr. Carpenter, well-known in the scientific world from his standard book on the use of the microscope, recently stated publicly that cases of *tania salium* were rare in Croydon, and that any instances which had occurred were generally to be found among persons who had lived abroad and who, no doubt, contracted the disease in foreign countries. Further, the learned *savant* mentioned that he had frequently searched for entozoa at the sewage outflow at Beddington, *but never found one*. It is just possible, therefore, that our system of underground sewers, so often criticised, may by its ramifications and cold be really the sepulchres of countless millions of parasites,

---

\* See *Food Journal*, Vol. II., p. 23, "Trichinatus Pork."



which, if speedily conveyed above ground to our fields in manure, might retain their terrible vitality, and passing into the beasts of the field, ultimately reach their human victims. We are, of course, aware that entozoa cannot stand fire, and that thoroughly cooked meat, although swarming with trichinæ, or other parasites, may be eaten with impunity, as far as trichinosis is to be feared. Nevertheless, we are conscious of a feeling inimical to voluntarily becoming living tombs for deceased tape-worms, and should prefer that the produce of our shambles should reach us free from entozoic contamination. It is a relief, therefore, to learn from Dr. Carpenter that on properly-conducted sewage farms no risk from this source can arise.

---

AGRICULTURE, aided by chemistry and mechanics, has made such astonishing progress during our generation that it would be presumptuous almost to predict or even hazard an opinion regarding the probable achievements of our farmers during the next quarter of a century. Nevertheless, even with all our improvements, bread—the great necessary of human existence—continues dear. It is true that in the most favoured districts of Great Britain or Ireland we never see anything approaching to the magnificent wheat stalks of ancient Mesopotamia, which are reported to have reached the height of twelve feet, supporting and nodding under a correspondingly copious crown of golden grain. We never hear of such a marvel being exhibited at any of our agricultural shows, exposed in any of our corn markets, or even made the twin brother of the “big gooseberry,” by the most mendacious of newspaper correspondents, as that of which “The Martyr of Nature” writes. He says:—“The Procurator of Byzacium sent the (Roman) emperor Augustus a fasciculus of 400 stalks, the produce of a single grain.” Yet, although denied the once productive soil and charming climate of north-western Asia, we have received a legacy of skill which is daily implemented by science. The modern plough is no longer drawn, as in the days of Pliny (*vili asino et anu*) by a donkey and an old woman. The agricultural tool is now harnessed to a restless steam-horse, and the result, instead of being a mere surface scratch, reveals a furrow probably a yard in depth. It is, of course, necessary to remember that the grand Mesopotamian plain, situated between the Euphrates and Tigris, is almost level, and scarcely anywhere rises above the surface of those great rivers when they are in flood, consequently irrigation, by means of canals, became easy. Now, the probability is that to the non-practice of irrigation

in this country, as a rule, may be attributed the loss of, or serious diminution in, many a promising crop. Equally may we associate with its neglect the fact that the once-smiling peninsula of Mesopotamia has become the howling wilderness it is to-day. History informs us that, apart from the rivalry of the Egyptian Delta—the exceeding fertility of which had become a proverb—Mesopotamia was then pre-eminently the granary of the known world, as it had been the cradle of the human race. But the Chaldean farmers, with their rude methods of agriculture, notwithstanding their enviable climate, would have found it a difficult task to feed the teeming multitudes of Nineveh and Babylon but for a little discovery they made, which we recommend to the notice of our own agriculturists. Instead of sowing broadcast, as our farmers do, they selected the largest and finest specimens for seed, and dibbled the grains, one by one, in the prepared soil.

---

NORWAY is a mountainous, well-wooded, and picturesque country, having a coast-line of 1,600 miles, indented with numerous inlets, one of which, the Christiania fiord, penetrates to the capital, a distance of fifty miles. As might be expected, such a country offers unusual facilities equally to the disciples of Nimrod and Walton. Those whose tastes incline towards the wild moor or boggy fen, have only to pay a visit to Leadenhall Market in order to witness what a variety of winged creatures the Norwegian sportsmen can supply. Among these trophies of the chase he will be surprised and pleased to see a splendid bird, weighing eight pounds. The capercaillie belongs to the grouse tribe, and, feeding as it does on juniper and other wild berries, with an occasional luncheon of fir cones, its flesh acquires an aromatic flavour, which, to most palates, is exceedingly grateful. To the household economist it ought to be known, too, that this bird, the black-cock and grey-hen, ever since their introduction into London, have usually been much cheaper than our own game, or even than poultry. Those, again, whose energies are concentrated upon fishing, will also find ample scope for the indulgence of their tastes either in the Arctic streams, which are alive with salmon, among the islets and creeks of the Skager Rack, which swarm with lobsters and crabs, or, possessing a steam yacht, the sportsman, if sufficiently dauntless and hungry for a miscellaneous draught of fishes, may shoot his nets on the very margin of the terrible Maelstrom, and thus cheat the dreaded whirlpool of many a finny victim. In short,

to the artist, sportsman, or student of Natural History, Norway offers rare opportunities; and we trust that, as its charms become better known, its enormous food resources may likewise be turned to account.

THOSE of our readers who take a special interest in the supply of tea, will be gratified to learn that the Indian Gardens of Assam, Cachar, and Darjeeling are estimated to yield 2,000,000 lbs. more this year than last. This grand amount, although far short of the enormous quantity received annually from China and Japan, is still most encouraging when we reflect that tea cultivation in India only commenced in the year 1824, whereas the industry had taken root in China about A.D. 600, and in Japan in 810. But as reliable figures convey to the mind the best and quickest impression of the progress of any article of commerce, we subjoin a table of imports of tea for the past nine years:—

Year.	China and Japan.			India.		
1864	..	..	..	120,284,000 lbs.	..	..
1865	..	..	..	120,345,000 "	..	..
1866	..	..	..	120,213,000 "	..	..
1867	..	..	..	122,682,000 "	..	..
1868	..	..	..	118,480,000 "	..	..
1869	..	..	..	145,472,000 "	..	..
1870	..	..	..	141,500,000 "	..	..
1871	..	..	..	134,000,000 "	..	..
1872	..	..	..	147,000,000 "	..	..

COLUMBIA MARKET, the magnificent gift of the Baroness Burdett Coutts to the east end citizens of London, seems in a fair way of remaining as unproductive and useless as the Desert of Sahara, and all through the gripping policy of the Great Eastern Railway Company. It appears that this line has advanced its rates for the conveyance of fish by about fifty per cent., after having encouraged the construction of a tramway between their London Terminus and Columbia Market. It might be worth while for the City authorities to inquire how far the Great Eastern Railway Company, or, indeed, any monopolist railway is justified in such a proceeding. The public usually understand that railway companies' rates, both for passengers and goods, are fixed before the line is sanctioned by Parliament, and the probability is that an action-at-law against the directors is competent to every fish agent at Yarmouth, or elsewhere, whose boxes are refused at the old rates.

THE correct mingling of the various articles of food which go to sustain life in health and vigour, although apparently the result

of accident, had its origin deep in human instincts, which, unless impaired by custom, or sophisticated by pernicious indulgence, are usually safe guides. Thus, long ere chemistry taught us that the best proportions in which food could be taken were nine parts of fat, twenty-two of nitrogenous, and sixty-nine of starch and sugar, nature suggested the very mixtures which have ever been popular and which exactly fulfil the demands of science. Such a mixture is the model dish for which several of the City taverns are famous :—Boiled pork, parsnips, pease-pudding, and potatoes. It is somewhat curious, however, to note that the favourite fare of Englishmen at this season of the year, notwithstanding its proved excellence and chemical perfection, is abhorrent to both French and Germans. Lamb and mint sauce they cannot understand, and consequently they cannot appreciate the gustatorial poet who sings :—

“Then boil the peas, the fragrant mint prepare,  
Be thou, prime joint, not overdone nor rare ;  
Concoct the gravy with exceeding care.  
When all is ready, serve—I shall be there,  
I always am !  
Three slices midway of the leg be mine,  
Then put the rest away, for very fine  
Is cold roast lamb.”

It is just barely possible that this prejudice may be a remnant of the intolerant feeling against Jewish customs, which, happily extinct in this country, still lingers on the Continent of Europe. The modern dish, with salad, is considered by some eminent authorities to be the representative of the paschal lamb eaten with bitter herbs at the Hebrew Passover, and this view receives confirmation from the fact that the Douay translation of the Scriptures renders the words “bitter herbs,” by “wild lettuce.”

---

FACTS connected with the growth of the grape and the produce of wine in the South of Europe, have always some interest attached to them, because wine is an article of such extensive commercial value and numerous qualities, and is, moreover, so frequently adulterated. From the reports of our Consuls abroad we occasionally get an insight into the truth of the manufacture or production of certain well known kinds. In the Consular district of Nice, South of France, we learn that about 16,000 acres of land are planted with the vine. “The white grape, of which twelve varieties are cultivated, is the most esteemed, although ten varieties of the black

grape are cultivated. The vineyards are rarely planted and managed as in other Departments of France, but the Italian system prevails, that is to say, that the vines are not cut down annually close to the ground, but they are allowed to run on espaliers of some kind. The wines most in estimation are those produced at Le Bellet, La Grande, and Thonet-Var, but the quantity is in reality limited, notwithstanding the large quantities that are annually sold and reputed to be produced in these vineyards. Although the extent of land planted with the vine is large, the quantity of wine produced is comparatively small on account of careless cultivation, and the invasion of the oidium, and other causes. The price of the wines produced varies much, some being sold at, or soon after, the vintage at 16s. the cask of 100 litres (about 22 gallons), and others at 6*l.*, but prices in this as in every other article have very much increased since the annexation by France." From Spain we also learn that much of the wine of Catalonia is sent in disguise to England, the United States, and elsewhere, under the names of famous vintages; wine imitation being a considerable industry in that part of Spain, and at Cette, and other places in the South of France, which are also most active in its reception and diffusion. The best wine of the principality, when unadulterated and matured, is very good, and ought to be better known in England than it is. "Priorato is very superior to much of what is sold in England as port, and there is a white wine, Alella, grown on the sunny seaward sloping hills to the east of Barcelona, to be had in the country in good condition at 10*d.* per quart, which is far better than London Sherry at three and four times the price, but the growth and nursing of wine has never reached the pitch in Catalonia that it has in Andalusia, where it is one of the fine arts. If we ever get a commercial treaty with Spain, it will give an impetus to the wine trade of Catalana." A good deal of the wine produced in Catalonia goes to South America and Havannah.

---

A CIRCULAR published by an eminent firm in Ireland has called the attention of the producers of butter to the fact that Irish butters fail to obtain as high prices as Dutch, French, and German, in the English markets. The circular proceeds to point out that whereas other countries have endeavoured to suit the tastes of customers, Ireland has continued her old habits. It suggests that the butter be packed as closely as possible, and that the firkins or barrels should not be so large; 70 lbs. is the average weight of butter which it is suggested should be contained in one firkin, whereas

Irish parcels often are considerably heavier. Irish butter also suffers from being over salted; the circular in question suggests that 2 lbs. of salt is quite sufficient for the firkin containing 70 lbs. of butter. Under these circumstances the firm ventures to suggest that the farmers of Ireland may hope successfully to compete in the English market with the mild cured butters from France, Holland, and Germany. Cleanliness in the appearance of the packages is also suggested, also that the butter of large producers should be known by a distinguishing brand on the firkin, by which means really good butter could be distinguished from inferior; by attention to these hints the Irish butter trade would be placed on a sounder footing than at present.

---

## CORRESPONDENCE.

---

### THE STRENGTH OF SPIRITS.

*To the Editor of the "Food Journal."*

SIR,—It is scarcely necessary for me to say a word on Dr. Muter's note on my paper on the strength of spirits. My remarks were exclusively confined to the expression of the strengths of alcoholic liquors in a commercial and revenue sense, and consequently the note cannot refer to any supposed advocacy of mine for the use of Sikes's hydrometer under all circumstances; I only wished to impress upon the minds of analysts, if they had to examine a sample of spirits supposed to have been diluted with water or any other substance for the purposes of fraud, it would be necessary for them to find the strength by the hydrometer, and not by the specific gravity bottle, and express the strength, when found, as under proof or over proof as the case might be. I am aware of the inconveniences attending the use of the hydrometer, and the advantages from a chemical point of view of expressing the quantity of alcohol present in a sample in percentages of absolute alcohol.

But I must at the same time add that expressions in percentages of absolute alcohol are not strictly accurate, for the specific gravity of so called absolute alcohol is not definitely settled by all chemists. The table so frequently in use for finding the percentage of absolute alcohol from the specific gravity is the one by Founes, Phil. Trans. 1847, which is not altogether the result of experiment, as mixtures of alcohol and water were not made for every degree of absolute alcohol, but for every two degrees, and the table was then built up on these experiments. It is quite a question for further experiment to settle whether alcohol weighing at 60 F. 793811 is absolute alcohol.

B. R.

---

A CORRESPONDENT is desirous of obtaining information respecting the supply of meat into Paris, and the *abattoir* system there, with statistics.

## DOMESTIC RECIPES.

---

*The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.*

---

### MY GRANDMOTHER'S RECIPES.

#### CARROT SOUP.

Take some good gravy soup made of beef and veal; boil some carrots till they are tender, rub them through a sieve, add them to the soup, and thicken as agreeable with about two large spoonfuls of flour well stirred in.

---

#### DOUGH NUTS.

Half a peck of flour,  $1\frac{1}{2}$  lb. of sugar, 12 eggs,  $1\frac{1}{2}$  lb. of suet or lard; melt in a little cream as much as will make it into a stiff paste; boil a few at a time in fresh lard.

---

#### TO CURE A HAM OF TWENTY POUNDS.

1 lb. 8 oz. of common salt, and 1 lb. 8 oz. of brown sugar, 2 oz. of salt o prunella, and 2 oz. of saltpetre; lay the ham in a pan, and let the salt and sugar be well rubbed in by a good fire until they become liquid; let it remain in the brine one month, turning and rubbing it every day; then take it out of the pan, and hang it to drain all night; dry it in a chimney where a slow wood fire is made use of.

---

#### TO CURE A TONGUE.

Take 1 oz. of bay salt, 2 oz. of saltpetre; beat them fine; mix  $\frac{1}{2}$  lb. of coarse brown sugar with them, and a little common salt; slit the roots of the tongue that the salt may penetrate, and take care to rub it well after it has laid about ten days; turn it every day, and wash it with the brine.

---

#### FOR BACON.

You must follow the same directions as for a ham; a chine of pork will take about  $\frac{1}{2}$  lb. of common salt, the same of sugar,  $\frac{1}{2}$  oz. of bay salt, and  $\frac{1}{2}$  oz. of saltpetre.

---

#### TO PRESERVE BULLACE.

Gather your fruit full grown and dry, but not ripe; boil a quarter of a peck of dwarf bullace in 6 quarts of water, and strain them off—that will afford juice enough for a peck; put the liquor to the bullace when cold, and set the bottles' necks high in cold water in a kettle over the fire till the water is scalding hot, but not boiling; then take the bottles out, and, when cool, tie down with bladder.

THE  
FOOD JOURNAL.

---

FOOD AND COOKERY AT THE INTERNATIONAL  
EXHIBITION.

---

THE School of Cookery of which we spoke last month has grown greatly in favour with the visitors to the Exhibition, who throng the lecture-room every time that its doors are opened. Her Majesty upon one occasion honoured it with her presence, when, the Queen and Princesses having been conducted to chairs, Mr. Buckmaster, the lecturer of the school, made the following observations, during which an *omelette aux fines herbes* was prepared :

“ May it please your Majesty,—The specimen of cooking which is now to be presented takes only four or five minutes, and is within the reach of the poorest of your Majesty’s subjects. The materials cost 3½d., and they furnish a wholesome nourishing dish, acceptable for two persons. The omelette is seldom properly cooked even in France, which gives it its name. It is never found in the homes of the poor of this country, and in the houses of the rich it is often very badly cooked. The ordinary frying-pan and spoon found in every house will answer perfectly well. There is no occasion, as you are told in cookery books, for an omelette-pan and spoon. We wish to show in this school not only the best and most economic methods of domestic cooking, but the various uses to which kitchen utensils may be fairly applied without injury. To prepare a plain omelette, see that the frying-pan is thoroughly clean—for cleanliness brings with it habits of domestic order, which are among the first and best methods of happiness in every household ; nor is it without its influence on the moral character, for virtue and dirt can never dwell comfortably together. Place in the frying-pan about one ounce of butter. We use gas-stoves, and duplicate all our operations, so that the public may have a better opportunity of seeing ; but what we do at these gas-stoves we can equally well do at an ordinary kitchen fire-place. Break three eggs separately to see they are fresh, beat them up with a little chopped parsley and a pinch of pepper and salt. The eggs should not be beaten too much, or the white of them separates, and you produce a watery mixture which destroys the flavour and appearance of the omelette.



Now that the butter is melted, pour into the frying-pan the omelette mixture, and stir till it begins to set or thicken; shake the pan occasionally, and fold over the omelette neatly into an oval shape, and when it is of a golden colour turn quickly into a dish. To be able to prepare a plain omelette is to be able to prepare every kind of omelette. If you require a cheese omelette, introduce into the omelette mixture about a dessert-spoonful of grated Parmesan cheese with a little pepper and salt, and sometimes a few grains of cayenne pepper. In a sweet omelette no pepper or salt, but a little, and grated, sugar; and just before the omelette is folded in the pan distribute evenly over a little jam. If a bacon omelette, a few pieces of previously cooked bacon, cut into small dice, and so on for various kinds of omelettes. In preparing an omelette, remember five things—a clean pan, the mixture must not be too much beaten, the omelette must not be too large, three eggs are better than six eggs, which make two omelettes; they should not be too much cooked; they should be eaten immediately, or they become tough and more like a pancake. To make simple food wholesome and palatable by cooking was a duty imposed on man from the very earliest period of his civilisation. An abundant supply of food, and the proper preparation of it by cooking are matters intimately connected with the physical well-being and happiness of your Majesty's subjects, and, from a long and close connection with the working classes, on their behalf I may be permitted to say that the interest which your Majesty has shown in the School of Popular Cookery will be gratefully appreciated by all classes of your Majesty's subjects."

The programme of the lessons has been several times changed; on one or more occasions the visitors were shown how not only to make the cold mutton "go a great away," as the saying is, but how to make it nice, digestible, and, consequently, nourishing; the modes selected for illustration were hashed mutton, minced mutton, and soup made from the bones and scraps—homely lessons, and, therefore, most valuable. On another occasion the cooking of vegetables, spinach, and cauliflower, and the making of potato croquettes formed the subject of illustration and explanation; and, in a third, it was the mode of making the best use of Australian preserved meats. The success that has attended, and still attends, the School of Cookery, shows plainly that, in some form or other, it must be continued.

Let us now take a glance at another most interesting and most important section of the Exhibition—that of the machinery and processes employed in the preservation of food.

These are exhibited on the ground floor of the Western Wing of the building, and the ear or the nose may either be fully trusted as a guide to the exact spot. Here, amid the rattle of machine bands and pulleys, will be seen in operation a mass of processes remarkable in some cases for great ingenuity, and in others for the perfection of simplicity.

The treatment of coffee and cocoa is illustrated by several exhibitors. Messrs. Lyle & Co., show the process of coffee roasting in small machines over gas, and the method of getting rid of the

"parchment," or pellicle, which, if left with the berries, gives to the coffee a most unpleasant, bitter flavour, unfortunately well known to English palates. There is another coffee-roasting machine, of a peculiar make, in the Annexe, near the entrance to the School of Cookery, exhibited by Mr. E. Bowes.

The cocoa and chocolate manufacture is illustrated, first, by Messrs. Tulloch & Co., who have two mills in action, one of which reduces the nibs, or roughly broken cocoa-nuts, to coarse powder, while the other converts the powder to flakes. This flaked cocoa is without any admixture (pure cocoa), and the object of flaking is to save time and fuel in boiling. The flakes contain all the oil, or "butter" of the nut, and this is the reason why it cannot be reduced to fine powder. To make chocolate, the oily matter is extracted and sugar added, and the *Compagnie Française*, of Paris and London, shows how the purified and sugared cocoa is ground into paste, and converted into cake chocolate, and chocolate confectionery. The consumption in France and other countries of eating-chocolate and chocolate bon-bons is enormous; and as, when pure, these preparations are extremely nourishing, we should be glad to see them replace some other sweets in use in this country.

The general confectionery manufacture is fairly illustrated. Mr. F. Allen, of London, Mr. Collier, of Rochdale, Messrs. Hill & Jones, of London, exhibit the machines and processes by which comfits, sugared almonds, drops, etc., are made into the attractive forms in which they are offered to the public. The principle in the case of almond, carraway, and other comfits is that the almonds, etc., are made to revolve in huge copper pans, and are sprinkled from time to time with boiled sugar, and the eccentric motions given to these pans are curious, though simple enough. The drops, etc., are made in a different manner, the sugar is boiled, poured out upon metal plates, and, the sheets, when partially cooled, passed through mills with the required forms cut all over the surfaces of the rollers.

The mode of preparing oranges for the making of marmalade is exhibited by Messrs. Batty & Co., of London, one machine extracts the whole of the juice and pith of the fruit, another reduces the peel to fine strips; these operations, as well as that of preparing vinegar for pickling, keep a crowd constantly around Messrs. Batty's attractive stand.

The making of macaroni is little known in this country, though it was practised to our knowledge many years since in London, an Anglo-Italian Company, Messrs. Criscuolo, Kay & Co., has, however, been formed recently for producing macaroni, vermicelli,

and all the preparations known on the Continent as *Pâtes d'Italie*, from the proper material, that is to say, from the flour, or semolina, derived from the small hard-grained wheat, *grana duro*, which is unusually rich in gluten ; so that not only is good macaroni more nutritious than bread, but it forms a number of dishes from the simple preparation on which the poor Neapolitans live almost exclusively, and the well known macaroni *à l'Italienne*, macaroni *au gratin*, and macaroni with tomato sauce, to the elaborate ravioli and other dishes of the Italian cuisine. Macaroni in English houses is generally a horrible deception to those who have lived abroad, and we counsel those who have not had that advantage to visit the Italian restaurants in the neighbourhood of Soho, and other parts of London, and see what cheap and delicious dishes are served there, and how they are relished by the frequenters of those establishments.

The old prejudice was that real Italian macaroni must be good, but it has been found by analysis that nearly all the samples to be found in the shops show an excess of acidity or traces of worms ; either the material was not originally pure, or the macaroni had become damaged by being packed, or by the sea voyage. The new company professes to use the finest materials, employs Italian workmen and workwomen in the manufacture, and substitutes English steam machinery for the rude materials and processes of the Neapolitans. The mode of manufacture is simple enough, but requires very experienced eyes and hands ; the paste is ground and tempered in a peculiar manner in a mill with a large revolving vertical stone, and when of the proper consistency is passed through a strong screw press, and is formed, by means of perforated plates into the ordinary pipe macaroni, into ribbons, or into the thread like vermicelli. It is then cut up into lengths, hung on bamboo canes, the ends trimmed with scissors, and put up in a drying house till it has attained the proper consistency, when the smaller kinds are curled up very neatly by Neapolitan lasses, and, finally, completely dried and packed. The operation is interesting, and Messrs. Criscuolo, Kay & Co. have had the happy idea of enclosing a few recipes for the cooking of macaroni in the boxes made up for sale.

Another exhibition in this gallery is that of the preparation of mustard, by Messrs. J. & J. Colman, of London and Norwich. The seeds are crushed by stampers, as in oil mills, and the bran removed from the flour of the mustard by means of a series of sieves. The bran is afterwards treated for the oil it contains, and the refuse is oilcake. The processes are simple but complete, and they are

important, when the enormous consumption of mustard is considered.

Mr. Tallerman exhibits the process of cooking meat in tins, as practised in Australia. A chemical solution is used which boils at a low temperature, and the heat is raised for a short time before the completion of the cooking.

The preparation and bottling of soda and other aerated beverages are illustrated by Messrs. Fleet & Co., of Walworth, Barnet & Foster, of Hoxton, Hayward Tyler & Co., and Barrett & Co., of London, and H. Codd, of Camberwell. The machinery employed has been greatly improved and simplified of late years, but the greatest novelty in connection with this trade is the substitution of patent stoppers for corks, and the consequent economy of time by doing away with the necessity of stringing and wiring. The two plans shown by Mr. Codd and Messrs. Barrett are essentially the same, only that the former employs a glass ball and the latter a wooden plug; in each case a groove is managed in the neck of the bottle, into which an India-rubber ring is introduced, against which the ball or plug is firmly pressed by the force of the gas contained in the water. Capsules are used by Mr. Codd, and perhaps by Messrs. Barrett also, to prevent dirt, etc., entering the necks of the bottles. Lastly, these patent stoppers are convenient in practice, for there is neither string to cut, wire to be untwisted, nor corkscrew required; they are opened by pressing down the ball or plug by means of a small wooden pusher. So long as sufficient gas remains in the bottle, the stopper will close it effectually, even when a part of the contents has been used.

The food machinery not shown in motion in this gallery includes the curious disintegrating flour mill exhibited by Mr. Carr, of Bristol, and Mr. Cunningham, of Edinburgh; mill stones and other heavy flour-making machinery, by Messrs. Bryan Corcoran, Witt and Co., and Messrs. Ruston & Proctor; and the sausage meat chopping and mincing machines of Mr. Gardener, of Birmingham.

Lastly, Messrs. Lambert & Butler show the process of making cigarettes, covered with a tobacco leaf; and Mr. Legg, the modern method of tobacco manufacture.

---

A PATENT OYSTER.—Where will the genius of the American inventor end? A down-east journal informs us that a Maine man is about to apply for a patent for an artificial oyster, made out of flour-paste, tapioca, salt, and water. The inventor places these in second-hand oyster shells, which are carefully glued around the edges; and when a half-intoxicated customer calls for a dozen raw on the half shell, he gets them from the shop.—*Land and Water.*

## ITALIAN ARTISANS AT TABLE.

---

GRAY'S INN ROAD is not perhaps the most attractive thoroughfare we might select for a spring saunter, and Liquorpond Street, with its hugh, sombre brewery, heavy carts loaded with steaming "grains," its muddy, narrow causeways, dirty shops, and big irregular paving stones, that have rarely been warmed by a sunbeam, is one of the last streets we should have selected when in pursuit of a good dinner. Yet this is the road that should be followed to reach the restaurant of Signor Barilone, situated at the corner of Laystall Street, and going on to Liquorpond Street. Barilone is a celebrity, and the Italian colony in London—a body of men who have formed within our great capital a little world of their own—is ardently devoted to their host, whose culinary genius has provided for them true Italian fare, in the midst of London fogs. The moulders of plaster and clay statuettes, artful reproducers of the great Greek masters, looking-glass makers, and wood carvers; in a word, the Italian artisans who crowd the neighbourhood of Saffron Hill, know and frequent Barilone's from principle as well as preference.

A foreign *restaurateur* is not merely a purveyor of viands, a cook, and to a greater or smaller extent, the extortioner of the artisan's weekly wage, but to the colony like that of Italians now settled in London, he is a true friend, he holds the house of call, where every compatriot may rely on a hearty welcome. The newly arrived immigrant to these shores may there find a group of companions ready to receive him within their fold; the restaurant is a home to him, where he can spend an idle day in conversation or over dominos, bagatelle, etc., even if he cannot afford to order anything for the moment. The customer of an English eating house enters, eats rapidly, pays, and departs in silence, without having vouchsafed any remarks to the persons around him, with whom he is utterly unacquainted. Here at Barilone's everyone begins by bowing to everyone else as he enters; and neighbours at table if not already acquainted with each other, are nevertheless not many moments without engaging in lively conversation. Good spirits and friendliness animate all alike. The *bourgeois* shop-keeper, the rough workmen, the stately Mazzinian exile and conspirator,

mingle affably, and constitute a fraternal union, which would astound most of our stiffnecked English race.

These characteristics naturally lead the Italian artisans to frequent the restaurant in question; but from principle also they are attached to its cook and proprietor. He is a political ally, and the friend of the people's hero Garibaldi. On pushing open the street door, which admits the visitor to the outer room, he sees a table stretched before him and reaching the opposite wall. Over the table, as if presiding, there is a pastel portrait of Barilone, and under it, in a gold frame somewhat the worse for the flies, may be read a letter written and signed by Garibaldi himself. It is addressed to the Italian workmen and the musical society by them established in London. The letter runs thus :—

"Brother Workmen,—Before leaving, let me thank you from my heart for the affection you have shown to me and to our common country. Have faith in the immortal cause of liberty and humanity, and keep yourselves to your work and to your country. The history of Italian working men is one of national virtue and glory. From the memory of our fathers let us take an example that shall strengthen us in new duties. Your society should reflect that which Italy expects from us. *Addio fratelli.* Let us work together to regenerate.—Yours, G. GARIBALDI.

"London, April 21st, 1864."

Effectively it is here that the *Fratelli Italiani* meet, their sweet harmony often enlivening the whole neighbourhood, and from among them were selected many of the chorus singers for the winter opera, given last year at St. George's Hall. Above stairs is a large room where the practice takes place; and often when there is no singing, instead of the harmony of notes a somewhat less successful attempt is made to obtain harmony of opinion. The singers of one day are the boisterous politicians of the morrow, and thus from week to week, under the roof of Barilone's interesting restaurant, we find united the pursuits of politics, of music, and of epicurism; for indeed one must be an epicure to appreciate fully the advantages of this establishment, and it was rather in this last capacity that we visited it.

The first apartment, which we have already mentioned, is the favourite dining-room; that beyond is frequented by the bagatelle players; and beyond that again is another, not often used. The last time we entered the last-named room, its tables were loaded with immense mounds of rice, macaroni, tagliarini, and spaghetti, ready for the cook. From the middle room the anxious or suspicious customer can obtain a full view of the kitchen, as the door stands frankly open, and he may watch the rapid but skilful evolu-

tions of Barilone himself as he darts from pan to pan amidst an immense accumulation of crockery and kitchen utensils, throwing up at each stir or shake a fragrant vapour that inspires uncontrollable appetite.

Having taken our seats, white damask napkins are brought to us, which unfortunately often contrast in too marked a manner with the soiled table cloth; but at an eating house frequented by English working-men there would probably be no table cloth at all, and even to the middle classes a napkin is frequently an unknown luxury. A piece of crisp fresh French bread is laid by the side of scrupulously clean knives and forks, and then soup is served. Certainly the soup has no taste of meat; but, for the money (threepence), it is remarkably satisfying. It contained a great quantity of rice, some haricot beans, and a leaf or two of cabbage. We recommend this soup to all hungry souls. The next dish is perhaps a pompous platter of *maccaroni al sugo*. This too would suit the hungered; the portion allowed for each person is colossal, and unless thoroughly inured to the consumption of this kind of food, most Englishmen would, on mastering an entire plateful, find that their dinner had been brought to an abrupt conclusion. In the concoction of this dish, though it costs only 4*d.* the small and 6*d.* the larger portion, there is nevertheless some attempt at epicurism. *Maccaroni al sugo* is composed of maccaroni, cheese, and a rich gravy, often flavoured with tomatoes. It is excellent. But we repeat our warning, if ambitious of eating something more, order only one portion between two persons.

It is in dealing with meat that Barilone truly excels. Of all the cheap Italian restaurants, his establishment bears away the palm for making sauces. *Stuffed* is the name given to a stew, and we recommend the veal in preference to the mutton stew. The latter is like most French *ragoûts*, but to the former is added a tomato sauce, in which the *chef* has vindicated his reputation, and displays remarkable refinement in the just and delicate admixture of its ingredients. Here, as elsewhere, the *côtelette Milanese* is, of course, a favourite dish. If unadorned, and consisting only of a veal chop or cutlet encrusted with bread crumbs and egg, with the traditional quarter of a lemon to stimulate the palate, it presents no peculiar difference to the same dish as made in the other Italian restaurants of London; but the *côtelette Milanese*, with curry sauce, is quite another matter. This is a hybrid dish, which redounds at once to the honour both of Italy and of India. The curry, we need not say, is only perceptible by its flavour, not by its burning pro-

pensities. An Italian is far too wary to incapacitate himself for tasting other dishes or the wine he may have ordered for dessert. The greatest care is therefore taken not to destroy the power of taste by burning the palate with an over dose of the Indian ingredient. In the midst of this skilful mixture floats the *côtelette Milanese*. Its crisp bread crumbs become slightly moistened by the sauce, but the eggs hold good against curry and gravy, and thus the *Milanese* is maintained intact in the midst of the innovations of Anglo-Indian cookery.

As for vegetables, green peas preserved by a French company in tins, can be obtained all the year round for the modest charge of sixpence the portion. Mushrooms, French beans, etc., are also always ready. On Sunday, especially, these tins are opened, for this is the day when the Italian artisan finds leisure to encourage his epicurean tastes.

On these occasions the conversation is animated and loud, though the subjects discussed display the almost childish simplicity of the *convives*. Little anecdotes of the most simple character excite roars of laughter. The most friendly discussions are carried on with such vehemence, that the calm Englishman might imagine that the disputants were quarrelling mortally. Suddenly a chorus of voices gives vent to the most violent exclamations; arms are raised in the air; the speakers throw themselves into dramatic attitudes, some menacing with clenched fists, others with arms crossed, looking the picture of confident triumph; every muscle of their features is in activity, while dark southern eyes dance and sparkle with inexpressible vivacity. Surprised, if not alarmed, the Englishman lays down his knife and fork, expecting to hear, at least, that King Victor Emanuel has been assassinated; but in a moment or two he learns that there is no serious dissension whatsoever between the debaters; indeed, they are only discussing in a friendly way the respective merits of English and Viennese beer.

Dessert is not an unknown luxury to the Italian artisan, though pudding is far too heavy and coarse for his refined tastes; he will sometimes call for an *omelette soufflée*, and Barilone can produce this delicacy as well as the best cook in Paris. The helping is most liberal, though this dish is here only charged 6d. With jam to sweeten it, the most fastidious lady might envy the talent of the Italian workmen's cook. Fruits and cheese abound in summer time, and although everyone drinks freely of wine—cheap, though for the price, good wine—drunkenness is almost unknown.

If English working-men lived like their brothers of Italy, we



should need no agitation for and against a "Permissive Bill," or other similar restrictive projects. These Italian working-men are confirmed epicures, and know more about cooking than our English middle classes; they have tried our English restaurants, but have promptly left them, objecting to the barbarous coarseness of the customs and cooking in our mud-girt London, and have sought, in defiance of the gloomy atmosphere, to create a little Italy of their own within the precincts of Signor Barilone's hospitable restaurant. To keep up the illusion, a bottle of Italian wine is often opened. It is called *Borolla*, and being charged only two shillings a bottle, it is within the scope of a workman's financial resources. It has, to some extent, the advantages of champagne, combined with the fortifying properties of port. It is a "heavy wine," and yet it effervesces, and is a most cooling drink for summer. So useful and yet so cheap a wine ought to be better known in England. Not only the wine, but the whole system of friendly intercourse, good, refined, and cheap cooking, as illustrated by restaurants like that we have but imperfectly described, should be better known, better appreciated, and at least in part, imitated by English caterers.

ADOLPHE SMITH.

---

THE ADULTERATION ACT.—The want of some specific and legal definition of the word adulteration,—i.e., what constitutes adulteration,—threatens to render the Act in the majority of cases a dead letter. A great deal of money has been or will be spent in legal proceedings for the purpose of deciding whether the abstraction of cream from milk constitutes an adulteration, and whether a milk merchant who sells milk avowedly as skim milk can be brought within the clutches of the law. In fact, it has yet to be settled whether an addition to or an abstraction from any article constitutes an adulteration within the meaning of the Act, and until this is finally determined very little practical good can be derived from its operation. Again, it appears that Dr Stevenson, analyst for the parish of Clerkenwell, has presented a report on bread and tea to the authorities, and out of a total of forty-seven samples, twelve were more or less adulterated. As regards the tea, the analyst did not recommend a prosecution, because "he did not feel clear that the adulterations had been executed in this country." As regards the bread, Dr. Stevenson also did not recommend any prosecution, "but trusted that those who had adulterated might be warned by samples having been procured for analysis." It is pleasing, but not profitable, to know that a belief in bakers forms parts of the faith of a metropolitan analyst. It would appear, too, that analysts, as well as doctors, are prone to differ. Dr. Whitmore, analyst for Marylebone, records in his first report "that of the modes by which the quality of milk is tested the specific gravity is altogether untrustworthy." But Parkes tells us that "the comparison of the specific gravity, and the amount of cream which rises, or of fat, will be found to give, in conjunction with the physical characters, a very good idea of the quality of the milk." All these published differences of opinion in practical questions of this sort are not likely to increase the faith of the buying or selling public in the prospective efficiency of the Act.—*Lancet*.

## SUGAR AND ITS ADULTERATIONS.

---

A LECTURE on "Sugar and its Adulterations" was delivered by Mr. Henry Pocklington on Wednesday, April 23rd, before the Hull Scientific Association, at the Church Institute, Albion Street. After describing the structure of the sugar cane, illustrating his remarks by reference to drawings and microscopical preparations, the lecturer mentioned that other plants than the sugar cane were also sources of cane sugar, and that another sugar, of very different properties, could be obtained from starch and old rags by suitable means, and in fact was so obtained; but he should, in his lecture, confine himself to the sugar cane, and to cane sugar, however and wheresoever obtained, as the true sugar of commerce. The process by which the sugar is obtained from the cane having been described, the lecturer went on to say:—As you will be prepared to expect from what has been told you of the rude processes in use on the sugar plantations, the qualities and purity of the raw sugar of commerce are very diverse. Much of it, in fact, is utterly unfit for domestic use until refined. Other samples of it, especially that coming from the West Indies, were well made and as pure as raw sugar can be under the imperfect conditions under which even the best of it is made. That on the table, purchased in Hull, was a very fair sample of a high-class West India sugar, and, though not pure, was unadulterated. It might help them to the appreciation of sugar if they briefly considered what pure sugar really was. It was composed of carbon united to the elements of water in the proportion of 12 atoms or molecules of carbon to the 33 parts of the elements of water, hydrogen and oxygen. A very simple experiment or two enabled him to demonstrate the existence of carbon, and, with the aid of a little reflection on the part of the audience, of hydrogen and oxygen also. When pure—in other words, when it consisted only of the 12 parts of carbon, 22 parts of hydrogen, and 11 parts of oxygen—sugar formed a clear, transparent, white crystal, of what was known as the modified monoclinic prismatic test, that any one could apply, of the purity of any sugar that might system, and it only assumed that shape when crystallised in the absence of all impurities. So that they had a very simple be offered, and any departure from that bold and striking type of

crystal should be regarded with suspicion. They would notice if they examined the crystals on the table, that they all, to the very smallest of them, follow that type of form. And these very beautiful crystals were not specially prepared for this lecture, but were of every-day commerce in the manufacturing districts; precisely similar crystals were from samples bought in Bristol at the same price paid for the sugar purchased in Hull.

The lecturer then described some of the bye products of sugar due to imperfection of manufacture, such as glucose, or sugar of starch, into which cane sugar passes if boiled too long at a high temperature, and levulose, or uncrystallisable syrup, due to the same cause. Glucose, he pointed out, was but half as sweet as cane sugar, and was clammy and sickly to the taste. The presence of these products was very easy of detection, as was shown by simple experiments with the copper test; and they must be regarded not only as proofs of bad manufacture, and objectionable as adding to the weight without a corresponding amount of sweetness, but also, as likely to produce gastric disturbances on account of the ease with which they ferment. These products were nearly always present in raw sugar, and often in large proportions, as was shown by analyses, which proved that 90 lbs. of pure Bristol crystals contained as much sweetness as 100 lbs. of many raw sugars, and more sweetness than a similar quantity of white moist sugar. But a far more objectionable contamination of raw sugar consisted in the presence of sporules of fungi, doubtless a fertile source of gastric disturbances, and of the nearly universal presence of the sugar itch insect, *Acarus sacchari*. Out of above 70 samples of raw sugar examined by Dr. Hassall for the *Lancet* Sanitary Commission, but four or five were free from the presence of this insect; and out of a far larger number of samples examined by the lecturer during the last ten years, not one was found free from both insects and ova. *Acarus sacchari* was first visible as a rounded body or egg; this gradually enlarged and became elongated and cylindrical, until it was about twice as long as broad; after a time, from the sides, and one extremity of this ovum, the legs and proboscis began to protrude. The *acarus* thus far formed, went on increasing until it attained its full growth, when it was visible to the naked eye as a mere speck.

Refined or white powder sugars were then referred to, and the advice given by a writer to the effect that raw powdered sugars alone should be purchased, discussed, and it was shown that this writer had in his mind the cheap white sugar commonly exposed for sale, and which was shown by analysis to contain large quan-

tities of glucose, some starch, salt, and but little cane sugar, and that it was, therefore, notwithstanding its lowness of price, a very dear, very unwholesome, and altogether a very unprofitable sugar to buy. A number of samples had been purchased for the purpose of the lecture, and carefully examined, and the average amount of saccharine matter found to be very low, besides which, many were evidently contaminated with the horribly offensive beet oil, and all were exceedingly moist, and, speaking generally, very unwholesome.

The lecturer announced that the samples and analyses could be inspected any day during the week at his office by those who were interested in the subject, it being clearly understood that he had no pecuniary interest whatever in the sale of any kind of sugar. His only object was to let the public know that there was a great deal of impure sugar sold, and that it was perfectly unnecessary that any one should buy it, because a cheaper article could be had, possessing the advantages of absolute chemical purity.

The analyses referred to are of Bristol sugar:—1,000 lbs. of No. 1 contain, of pure cane sugar, 999½ lbs.; ditto No. 2, nearly 999 lbs.; Finzel's new crystals, 999½ lbs.; three-fourths of the non-saccharine matter being surface moisture, and amounting, with other foreign matter only, to one thirteen-hundredth part of the whole. The saccharine matter in raw sugars, selected for their quality, will range from 810 to 960 lbs. in the thousand. 1,000 lbs. of Finzel's new crystals were equal to 2,000 lbs. of glucose, and to about 1,500 lbs. of common white sugar.

---

INDIAN TEA.—It is hardly possible to estimate the benefit that would accrue to India if England were to look to her Eastern Dependency, instead of China, for her main supply of tea. India can grow tea if England will buy, and it might be supposed that England will be only too glad to buy if Indian tea be all that it is declared to be. Wholesale dealers, we are told, know its value in giving flavour to the stuff they could not otherwise palm off on the patient British public; but it is not known to the general public. An Indian contemporary confidently predicts an increased demand, both on account of its flavour and the economy in use; a spoonful of Indian tea, it says, goes as far as three of China tea. How is it, then, that Indian tea is not sought after? We are told that the China trade is concerned in keeping it in the background. Very possibly, but the Indian producer will have little difficulty in counteracting that, if he supplies better tea and takes care to facilitate its purchase and identification.—*The Homeward Mail*.

IMPORTATION OF BEEF.—Last year the declared value of salted beef imported was 336,280*l.*, and of fresh or slightly salted 84,842*l.* In the preceding year the value of the latter was 54,150*l.*, and of the former 581,771*l.*

## ON THE UTILISATION OF PEAT.

---

THE connection between food and fuel is more intimate than at first sight might appear. Passing over the obvious application of heat to cookery—an art, by the way, that in some degree measures and maintains civilisation—it may be well to notice one or two of the more obvious phenomena that almost give caloric a claim to rank as one of the mineral foods. That it is a direct economiser of food is a simple matter of fact. Everything we eat is directed to two ends, namely, the reparation of exhausted tissues and the production of vital force. This force is heat. The higher the temperature of the body, the less food will be wasted on its formation. It is obvious, therefore, that heat tends to supplement food by sustaining physical force; the measure of that influence, however, we do not attempt to determine. The death-rate appears also to point out the importance of heat to life; for as the distress produced by the coal famine has grown deeper, so has that sad roll been lengthened. High prices in food and an absence of external heat, when combined, are indeed formidable assailants to our houses of clay, especially when we consider that the quantity as well as the quality of food *should* be increased in the ratio of the decrease of external warmth.

It is improbable that pit-coal will ever again fall to its old scale of prices. It is impossible that in a country such as ours wood can supply its place. Whether, therefore, the question be considered from a sanitary or commercial point of sight, few subjects are of more importance at the present moment than the employment of peat.

The profitable utilisation of peat is a subject which five-and-twenty years ago attracted considerable interest. That interest, did not end in scientific speculation, but produced various commercial enterprises which, being more or less based on false principles, proved unremunerative and were speedily abandoned. Disappointed projectors attributed their failure to the material on which they operated rather than to their own errors, and the public, unable to judge the case on its merits, adopted their *dicta*. To this cause, in no small degree, is to be attributed the apathy with which we have so long regarded what may, with much propriety be

called our surface coal fields. Till within the last year, no one dreamed that the manufacturing industry of the country could be suddenly paralyzed for want of fuel. Confident in the regularity and abundance of our supply, we were unprepared for the present emergency. In this crisis, the utilisation of peat is once more forced on our notice.

In various parts of the Kingdom works are being constructed for the production of peat-coal. On Dartmoor, for example, a company has been formed with a capital of 50,000*l.* to purchase certain peat deposits on the north side of the Moor. It is intended to use Box's patent process in its manufacture, and it is calculated that the produce will find a ready sale at 14*s.* per ton in the inland towns of Devon, Cornwall, Somerset and Dorset. Other works are in operation on Sedgmoor, whilst Ireland already sees a prospect of wealth, work and wages in her hitherto comparatively useless mosses. These points, however, are far removed from the great centres of our manufacturing industries, but peat deposits will probably be found wherever they are looked for. During the last few weeks a bed, said to be well nigh inexhaustible, has been discovered on both banks of the Thames, commencing within six or seven miles of the Mansion House, and extending to the Nore. Peat exists also in the neighbourhood of many of our Northern manufacturing towns, and is notoriously abundant round Manchester.

In Holland peat has long been used as fuel for all purposes of manufacture. It is said that the supply is becoming exhausted. Be this as it may, the mode in which it is prepared can scarcely fail to prove interesting. In the Low Countries peat is not dug out of the moss, but is brought up in a semi-fluid state from a considerable depth under water. It is raised by means of small and strong nets, securely fixed by iron rings to stout poles, like the dredges by which canals are cleared of mud. This liquid peat is conveyed in boats to the place prepared for its manufacture. The soft matter is spread over a level surface to the depth of six or eight inches, and the water is allowed to drain off slowly. When the peat begins to dry, men walk over it with mud-boards to compress it. As soon as it will bear cutting, it is divided into oblong pieces of the size with which most of us are familiar, and is subsequently loosely stacked in order to be dried by the sun and the wind. It will be presently shown that the disintegration, produced naturally in Holland, has been imitated by artificial means in England. It is probable that this method will become the basis of all present and prospective attempts for the utilisation of peat. Let us glance at

what was attempted in this direction during the earlier half of the present century.

Assuming that coal once existed on the surface of the earth, that it was buried by the upheavings and subsidings of the period, and that it became hard and dry by the superincumbent pressure as well as by increased heat, it was not illogical for experimenters to arrive at the conclusion that compression, joined with artificial drying, would produce peat-coal.

One of the first to turn his talents and ample pecuniary resources to this subject was the father of the late Lord Willoughby d'Eresby, who invented a very powerful compressing machine, which he imagined would press all the water out of the peat and leave it dry. In practice, however, it was found to press more water into the peat than out of it. Notwithstanding this disappointment, several others followed out the idea with more or less modification, believing that nature herself had pointed out the way. But if nature was to be followed, the conditions of time and place should have been present also. This being impossible, experimenters in peat up to the present day have, with a single exception, failed to produce anything really profitable or useful.

Twenty-three years ago, Mr. Robert Alloway, M.A., a gentleman holding considerable estates in Queen's County, after having studied various scientific methods then in operation, struck out a simple and natural plan for the manufacture of peat-coal. We can only give a very brief outline of his process. Peat, being sponge-like, requires to be broken up in order to destroy its cellular conformation; or it can never consolidate. Those, therefore, who attempted to compress raw peat without having first *mashed* it, only produced a fuel that, bulk for bulk, was far inferior to pit-coal. After designing various "pulping machines," all of which failed, Mr. Alloway fell back on hand labour. He opened his peat bank in the usual way. One man cut, whilst six, armed with heavy mallets stood above him. To each of these a sod was thrown in turn. A few blows served to mash it completely. It was then thrown into an adjoining water-hole, from whence a similar bank of peat had been previously cut. Here it lay through the winter, and having absorbed all the water, was in the spring ready for moulding. From this natural tank the semi-fluid mass was—after having been allowed to drain—carried to the sheds where the moulders (women, boys and girls) worked it up by hand, each handful forming "a pat," which was placed on a rough kind of lattice-work, each "pat" just touching its neighbours. The drying tables were quite open, having neither roof nor side walls, and perfect dryness was

usually attained in three days. Necessity appears to have taught Mr. Alloway what natural conditions forced on the Hollanders.

The following calculation is extracted from a paper read by Mr. Alloway before the Society of Arts :—

"A full-sized manufactory should consist of 10,000 tables, each 36 feet long by 4 feet wide, constructed simply of substantial wood framework. These 10,000 tables would turn off in a season (say March or April to November) about 50,000 tons of peat-coal, about 5 tons per annum on an average being made from each table. This, if sold at 10s. per ton (a very low rate), would give a profit of 20 per cent."

"This full-sized manufactory would cost in outlay or plant, as near as possible £10,000, a comparatively moderate sum, and would require about 100 acres of deep peat-bog, which would contain sufficient raw material for forty or fifty years' work."

The advantages of the method so imperfectly sketched are these. Peat-coal can be made so cheaply as to afford certain remunerative profit, in three or four days. It can be sent anywhere in bags or bulk. It is cleaner and freer from smuts and sulphurous acid than coal. From thirty to forty crops of it can be taken where only one of ordinary turf can be produced in the same season; and, lastly, it can compete with coal anywhere except at the pit's mouth. If it be remembered that these data were arrived at more than twenty years ago, when coal was less than half its present price, the foregoing arguments will have double weight.

Nor is this all that may be said in favour of the employment of peat, for whilst it economises our coal it will also add to our available lands. Hundreds of thousands of acres from which bog has been cut, now annually bear excellent crops.

Did space permit, it would be easy to show at length that the manufacture of peat-coal offers a remarkably healthy and safe employment for those who are occupied in it; that the supply of the raw material is practically inexhaustible, and that as a fuel it is cheap and wholesome. There is one argument, however, that would appear to render such an expansion of the subject unnecessary. We have suffered from one coal famine, and may at any time suffer from another; in short, we are at the mercy either of a stupendous monopoly, or a brutal tyranny, and may as well have two strings to our bow.

W. PEARD, M.D.

---

GREAT CATCH OF SARDINES.—Advices from Marseilles state that a few nights back the fishermen of that port netted, near Planier, no less than 12,000 kilogrammes of sardines, which, put up for sale at the Vivaux market, produced nearly 8000f. The whole were sold in less than two hours.—*Grocery News*.



## THE CONTAGIOUS DISEASES (ANIMALS) ACT.

---

THREE years have now elapsed since this Act came into force in Great Britain for the prevention of cattle plague, pleuro-pneumonia, foot and mouth disease, sheep-pox, sheep-scab, and glanders, and the Veterinary Department has recently issued an exhaustive report on the whole subject, showing the effect which the orders of the Privy Council have had upon the diseases in question.

The power given to the Privy Council to compel the local authorities to destroy and bury all animals suffering from the cattle plague, and to permit the slaughter of all animals which have been in contact with those actually diseased, has had a very salutary effect in stamping out the cattle plague; but as regards the other diseases enumerated, Mr. Williams, in his report, acknowledges with regret, that "on a careful consideration of our returns it is difficult, if not impossible, to demonstrate that the legislation relating to this disease (pleuro-pneumonia), as carried out by our local authorities, has checked its prevalence throughout the country," and he comes to the same conclusion respecting the other diseases.

The local authorities have the power to partially compensate owners of cattle for those destroyed suffering either from plague or pleuro-pneumonia, and also for those which have been with the animals so diseased and slaughtered in consequence. The rates of allowance in each case being the same, it would appear that one disease should succumb to the regulations as much as the other, but, unfortunately, in the former case the regulations are compulsory, and therefore bring about the desired result, whilst in the latter, the carrying out of the destruction of infected cattle is permissive only, and left entirely in the hands of the local authorities. In a few cases the authorities have destroyed cattle suffering from pleuro-pneumonia, and in one instance cattle which had been in contact with those affected; but it is self-evident that, as long as the local authorities have not one uniform system of treating this disease, it is useless for any county or borough to adhere to the costly system of slaughtering cattle when their neighbours allow the disease to continue its ravages unchecked,

and after the sacrifices made for the eradication of the disease, the cattle purchased to supply the place of those slaughtered may be infected.

The Veterinary Department has very wisely obtained all the information in its power from foreign countries, and finds, as a matter of course, that those countries suffer most in which the regulations are either bad in themselves or are inefficiently carried out. Thus, in Germany, where cattle plague regulations are very stringent, the disease is not common; and in Switzerland, where neither cattle nor horses over six months old can be removed without a certificate of health, "the results, as regards cattle plague, appear to be more satisfactory than those of any other European country." In Russia, on the other hand, where there appears to be little care exercised in eradicating the cattle plague, the country is never practically free from the disease. The affected animals are not always killed, and if the disease "breaks out in a drove of cattle on a journey, the affected animals only are detained for treatment, whilst the sound cattle are allowed to proceed on their journey." As the government treat the matter so lightly, it is not to be wondered at that our authorities have found the disease raging amongst Russian cattle imported, even before they have heard from the Russian Government that the disease is raging in the district from whence the cattle came.

In summarising the foreign and home regulations, the writer of the report makes certain suggestions which he considers would be of the greatest value if legalised in this country. He shows that in those countries where the government carries out the regulations, either directly by its own servants or indirectly by the appointment of inspectors or commissioners, whose sole duty it is to see that the local authorities carry out their instructions in a proper manner, cattle diseases are at a minimum. He proves to demonstration that the really dangerous diseases of cattle, such as plague and pleuro-pneumonia, cannot be checked to any appreciable extent by permissive legislation, but can only be suppressed by compulsory enactments; and, as a safeguard against the spread of disease, a suggestion is made that freshly purchased stock should, as in Belgium, be isolated for a certain length of time after being purchased, to prove that the cattle are free from disease, and further, that licenses for the movement of animals should be enforced as in Switzerland.

Of the direct suggestions made to the Privy Council by individuals and public bodies in this country, it is not to be wondered at that public attention should be prominently directed to the fact

that cattle can be imported into Great Britain from Ireland without restriction, and that as both foot and mouth disease and pleuropneumonia have been brought into England from Ireland, it is only right that inspectors at least should be appointed to examine the cattle on landing, and the vessels in which they are imported. The laxness of our regulations with respect to the cattle imported from Ireland has caused cattle-dealers and others to seek a market in England for cattle which should have been either kept at home or destroyed, and there is no doubt that little discrimination is exercised in determining whether the cattle sent here are diseased or not, when being sent out of the country. It certainly appears extraordinary that such stringent regulations should be made respecting the importation of foreign cattle, whilst those received from Ireland are neither examined before embarkation nor on landing. The extension of the Contagious Diseases (Animals) Acts, to Ireland, has, however, been submitted to the Irish Government, and, for the real interests of both countries, it is hoped that the executive will agree to this just extension of the Act.

As the value of all legislation must be judged by the good it confers, the report of the Veterinary Department deals with the loss entailed upon the country by the diseases which the regulations under consideration were made to prevent. From the imperfections in these rules of the Privy Council relating to other diseases beside cattle plague, no data of a reliable kind can be obtained respecting the loss from all diseases, but from the fatal cases of pleuropneumonia before any regulations to check it were in force, the estimated loss was a million per annum; and including the losses from foot-and-mouth disease, the estimated loss from these two diseases alone would amount to between three and four millions a-year. This sum, therefore, would not only provide for ample efficient supervision, but leave a handsome amount to find its way into the pocket of the producer of cattle.

The report affords valuable information as to the relation existing between the home and foreign supply of meat, but as the Trade and Navigation Returns of the last two years give no account of the quantity of meat exported, the information only reaches to the year 1870. From the data obtained, it is estimated that the average consumption of meat per head of the population in Great Britain in 1870, was 78 lbs., and that the total quantity consumed was 18,022,973 cwts., or 2,018,572,976 lbs.; of this quantity 67 per cent. was home produce, 20 per cent. Irish produce, and 13 per cent. foreign produce, or in pounds weight, 52 lbs. were British, 16 lbs.

Irish, and 10 lbs. foreign. The variations in price of the different kinds of meat sold in the chief towns in Germany and other countries are also given, but as the repetition of them would make this article too long, these prices may be referred to in a subsequent paper.

It would be unfair to close without referring to the action taken by different governments at the Vienna Congress in 1872, to endeavour to agree to a uniform course of action for the suppression of cattle plague. The number of countries represented, viz., Austria, Belgium, Germany, France, Great Britain, Hungary, Italy, Roumania, Russia, Switzerland, Servia and Turkey, afford ample evidence of the necessity for adopting stringent regulations for keeping the disease at least within bounds, and the subsequent action of the delegates showed that on the general question they were almost unanimous, although not able to agree as to details. The two questions which were the subject of discussion, and for the consideration of which, two committees were appointed, were the preventive measures necessary, and the repressive measures proposed. To illustrate how thoroughly the delegates appreciated the importance of prompt action in extinguishing the plague, they all agreed, with the exception of the representatives of Austria and Hungary, that "Every country shall initiate such an arrangement of veterinary matters, that, by their principle, a speedy extinction of the cattle plague may be rendered possible." It will thus be seen that the convention was thoroughly in earnest, and although nothing definite was settled at the time, yet the British delegate is of opinion that there are certain general "proposals which all those interested might accept, and that some such arrangement might be arrived at by taking the report of the late conference as a basis for diplomatic discussion between the states interested."

The difficulties connected with the establishment of an international convention, although numerous, are not insurmountable. It would be comparatively easy to make rules for those countries which only export cattle, and also rules for those which import only. But when the two classes are brought together, and regulations have to be considered and adopted which will work equitably and satisfactorily to all concerned, the difficulties are then materially increased, and forbearance and tact are required to bring the matter to a successful issue. At present Great Britain has to legislate for herself. With respect to the diseases of home cattle her regulations are not by any means perfect; but our legislation is not paternal, and individuals and local bodies do in

England what devolves upon the government in other countries. With respect to foreign cattle imported the regulations are better adapted to stamp out cattle plague and other diseases, if present; for in the case of cattle diseased or imported, from a country or district where the disease is known to exist, they are slaughtered on landing, and when the cattle are healthy and imported from a country possessing a clean bill of health, they are kept in quarantine to give the disease, if present, time to develop itself, and if absent, to assure the inspector that the cattle may be allowed to come into the country with safety. An international convention might be, and doubtless would be, most useful to us as well as to the other contracting countries. We should probably be compelled to have more stringent regulations for the inspection of diseased cattle at home, and the destruction of them. It is only reasonable to believe that the cattle then imported would be more free from disease, and this would consequently enable us to relax some of our present severe, though necessary, rules respecting the importation of foreign animals. The Veterinary Department of the Privy Council is doing very good work in this direction, and as the interests of the country appear to be safe in its keeping, it would be well for the government to give it a little more compulsory power in carrying out the important duties it has to perform under the Contagious Diseases (Animals) Act of 1869.

R. BANNISTER.

---

**HOW TO STAMP OUT SMALL-POX.**—It would appear that the sanitary management of the town of Oswestry is in good and efficient working order. As a proof of this, an instance was recorded in the Surveyor's report, presented to the Local Government Board at their meeting last week. A person suffering from small-pox was seen in the streets, detained, and as soon as possible sent to the workhouse. Dr. Beresford, the Medical Officer of Heath, and the Surveyor, at once visited the lodging-house where the patient had slept, withdrew the licence, and ordered the place to be disinfected and the bed burnt. Not satisfied with this, the Surveyor sent men to disinfect the house where the patient had previously lodged. By this praiseworthy promptitude the disease was confined to one person.—*The Week*.

**BEER.**—The number of common brewers in the United Kingdom continues to decrease, but though the trade gets into fewer hands, the licence duty (charged by quantity) is larger year by year. The return for the year ending the 30th of September, 1872, shows 30,798 brewers, or 928 fewer than in the preceding year; but the licence duty charged amounted to 425,811*l.*, showing an increase of 26,235*l.* over the preceding year. The number of licensed victuallers in the United Kingdom in 1872 was 99,465, an increase of 71; but the number of other persons licensed to sell beer to be drunk on the premises amounted in England to only 41,485, being 1,105 fewer than in the preceding year.

## ADULTERATION IN DEFIANCE OF THE NEW ACT.

---

It is to be hoped that no squeamishness on the part of magistrates, nor any mawkish feeling of tenderness towards first offences on the part of our analysts, may be allowed to interfere with the due enforcement of the new Adulteration Act.

Not without reason do we express this hope. During the last month some of the grossest cases of this grave commercial crime have been unequivocally brought before the public. In tea, milk, bread, meat, fish, but especially in the case of the first two of these necessities of life, has the old offence been proved, and that in no slight degree, or in a single instance, but wholesale, and carried on in the most barefaced manner. Indeed, for several consecutive days we could not take up the daily prints without being confronted with proofs, "open, gross, and palpable," of flagrant dishonesty in this respect: and in one instance it certainly appeared that the magistrate before whom the offenders were brought showed a reluctance to punish.

Either the offence is a grave one, or it is not. If the latter, then was legislation uncalled for; if the former, there can be no apology or palliation for the offenders under the foolish plea that it was a first offence; because, in all probability, persons who, in defiance of the new legal broom, could still venture on thus defrauding the public were therein guilty of an offence which was by no means the first they had committed, but only the first brought home to them.

Once let it be seen that there is any—even the slightest—chance of escaping punishment on conviction, or any leniency towards those who have rendered themselves liable to be punished, and the salutary law will become, to all intents and purposes, a dead letter.

To avoid even the appearance of exaggeration, it may be as well briefly to particularise the cases in question. We need only take a single paper. In the *Times* of May 7th we find on one page a report by Dr. Letheby, the medical officer of health for the City, with reference to 1,000 boxes of adulterated green tea. This tea, which was described as "Extra fine new season's Mayune gunpowder green tea, *ex* Sarpedon Steamship from Canton," was found to contain from 40 to 43 per cent. of *iron filings*, and 19 per cent.

of silica, in the form of fine sand! This is bad enough, but worse follows: the doctor goes on to state that a large quantity of unsound tea is being offered by a city firm, part of the salvage of a vessel wrecked off the coast of Devonshire in March last. This tea having been brought to London, re-dried and otherwise manipulated, was then repacked in *old* tea-chests, bought for the purpose, and stored in a bonded warehouse, and all the samples were composed of putrid leaves, and were utterly unfit for human consumption. But with regard to these teas (?), in spite of the new Act, there were, it appeared, "difficulties in the case" of bringing those concerned in so disgraceful and gigantic a fraud to justice. In addition to this Dr. Letheby reports that no less than 4,764 lbs. of bad meat had been seized and destroyed during the previous fortnight.

Turning to another column in the same copy of the *Times*, we learn that Dr. Whitmore, analyst for Marylebone, in his first report, says that out of 62 samples of milk obtained from as many dairies and milk shops in that district, 22 were found to be genuine, 15 deteriorated, and 25 adulterated. "Deteriorated" is a harmless sounding word, it only means that all the best and most nutritious part of the milk had been removed, and that the residue was sold as true and genuine milk—a most fraudulent and dishonest transaction, as the analyst very properly terms it. As to the 25 adulterated samples these were simply a joint stock affair between the cow and the pump; the latter useful animal having contributed, in one or two of the worst cases, as much as 75 per cent., or, in other words, to every quart of milk one pint and a half of water was feloniously added, and all this in the teeth of the new Act! In Dr. Whitmore's report, as in the case of that of Dr. Letheby, there is the same *piatus valdè defendus*, the gap through which the dishonest tradesmen had made their escape—at least we do not read of any penalties. It used to be said that a coach-and-four might be driven through any Act of Parliament; but what is a coach-and-four compared to a whole herd of cows by land, or a ship load of spurious "tea" by water?

If we only make laws for dishonest persons to laugh at, or break them with impunity, it were better to leave law-making altogether alone. Let us, however, hope that it is only in the very earliest stage of this salutary Act for the punishment of adulteration that we shall have to record such flagrant miscarriages of justice as it is the province of this Journal once more to call attention to, and to condemn.

J. MONTAGU SIMS.

## FERRUGINOUS GREEN TEA.

---

TEA-TASTING may not be quite so ancient as the fact of the presentation by the East India Company of two pounds of the fragrant leaf to Queen Catherine in 1664, yet we know that for at least a century young gentlemen have periodically repaired to the various commercial establishments in London where tea valuation was practised. There they inspected, critically examined, smelt, and tasted tea, not with the disinterested motive of furthering botanical knowledge, but simply for the education of the eye, the nose, and the palate with a view to a commercial end. When the monopoly of the East India Company ceased in 1833, although tea-tasting had long been an established vocation, it then became highly popular as a pursuit eminently fitted for gentlemen; accordingly, numbers of striplings, fresh from college, flocked to Mincing Lane, their parents or guardians having previously paid large premiums in order that they might be initiated into its mysteries. After two or three years' sipping, smelling, and tilting the infused leaves about from pot to lid, fondling the dry tea, gazing affectionately at it, first this way then that way, now nearer the light then further away from it, many of the chubby youngsters became impressed with the idea that they were accomplished tea valuers, and probably a few among them really knew something about it. However, they had all more or less complied with the requirements of the "Lane" by tasting and examining numerous samples and endeavouring to value them, and in the course of time the majority of these youths proceeded to fill remunerative situations as tea-tasters (*chaszees*) in China. But as it is impossible to place old heads on young shoulders, so it is hopeless to crowd a life-long experience into three years, and expect its retention and digestion by any youth, no matter how great his thirst for information may be. Consequently, whilst some of the embryo valuers, favourably situated, did fairly well, others made serious losses for their indignant employers on every chop of tea they tasted, purchased, and shipped home.

Meanwhile the Chinese merchants looked on with beaming countenances, and chuckled in their long sleeves at the errors (so



favourable to themselves) of each new arrival of British cherubs, who, in most cases, were ill-matched against the wily brokers of the Yangtze ports, Foochow, and Canton.

But a worse result, and an increased evil soon followed, from which the public here are now suffering. It was to be expected that the training which these young gentlemen received in Mincing Lane, and elsewhere in its neighbourhood, would have taught them the structural peculiarities which distinguish the tea leaf from that of the willow, the fragrant olive, and others used by the Chinese for adulteration and scenting. An idea may also have been prevalent in the minds of their friends that they had mastered the difference between exhausted tea leaves and those which as yet remained innocent of the pot; that they could instantly decide between a pinch of broken Souchong and a pinch of rice-husks and chopped straw; and could say in what respects genuine gunpowder, hyson, and caper were irreconcilable with the presence of iron-filings, silica, caterpillars' droppings, plumbago, lamp-black, ferruginous earth, and lively maggots. Yet the simple power of observation necessary to detect such evident and flagrant adulterations appears to have been denied, not only to the cherubs, but equally to the present race of *chassees*, who, we may remark, are no longer the chubby youth of yore, but go out to China connoisseurs in wine and cigars and knowing as to the points of a horse, although somewhat deficient in structural botany and the use of the microscope. Had these manly acquirements been reversed the public papers might have been spared chronicling the late disgraceful facts connected with some recent sales of tea in Mincing Lane, imported by the steamer *Sarpodon*, and saved from the wreck of the *Lalla Rookh*. There may have been some excuse for the mistakes made by the stripling tea-tasters of twenty years ago, as their errors arose chiefly from inexperience; but now the situation is entirely changed. When we find 1,000 boxes described in a broker's catalogue as "Extra Fine New Season's Moyune Gunpowder," for sale by auction in Mincing Lane, and are assured by Dr. Letheby that this tea contains from 40 to 43 per cent. of iron filings, and 19 per cent. of silica, we cannot admit youth and inexperience on the part of the buyer in China as any palliation of such a gross imposition. In short, the transaction exhibits an unblushing fraud, commencing with the Chinese manipulator, and perpetuated through the culpable ignorance or guilty connivance of the *chassee*, the neglect or apathy of the Customs' authorities there and here, the selling broker, and the wholesale buyer.

Thus we see the relation between cause and effect strikingly

exemplified. Mincing Lane originally sent out the inexperienced but confident cherub to buy tea in China; the sharp and unscrupulous native broker discovering the ease with which the cherub could be overreached in the matter of price, quickly followed up the swindle by gross adulteration; and the result appears in the hundreds of tons of trash with which annually, of late years, the market has been clogged.

But it is always easier to criticise and condemn a social evil than to originate a cure; to detect a flaw than to suggest a remedy; to discover failure than to command success. Tea adulteration is a growing evil, the exposure of which has been one out of our many duties. So long as a hope remained that the British shippers of tea from China would discern their true interest in crushing adulteration on the spot, we felt loth to concentrate the public eye upon them. That hope having gradually dwindled, in consequence of the ever-increasing arrival of sophisticated tea, we have no option left. It would now appear as if the merchant, who ships tea from China, were really the primary cause of its adulteration, and of course the person on whom the responsibility at present rests. Although we cannot make people honest by act of parliament, we have it in our power to strew their devious way with such formidable obstacles that sooner or later they must be compelled to confess that "honesty is the best policy." We have a numerous and expensive staff of consular officials in China, to whom might be relegated the task of inspecting and certifying all exports of tea, with the power of heavily fining, and even imprisoning, detected exporters of an adulterated article. The remedy may seem severe, but the disease is desperate. Either the shipper is wholly innocent of the adulterating tricks of the Chinese—a very unlikely supposition in the face of all the exposures of the *Food Journal*—or, knowing them, he winks at the fraud for the sake of the profit. If he is content to be judged by one standard he certainly exhibits a contemptible specimen of the British merchant; if by the other, he becomes an accessory to a crime and merits the punishment dealt to the common delinquent, who at home is convicted of watering his milk, sanding his sugar, or tampering with the purity of the staff of life.

C. W.

## NOTES OF THE MONTH.

---

THE respectable dairymen of London seem determined at once to aid the Government in putting an end to the adulteration of milk, and to clear themselves of any imputation of being partisans of such adulteration.

A committee, elected at a meeting of dairymen, held on the 8th April, at Willis's Rooms, to represent the interests of the trade in the metropolis, have unanimously resolved to advise the dairymen to ally themselves with the National Chamber of Trade, which undertakes the organisation of the society as a branch of the general chamber, to canvass for members, collect subscriptions, provide a board-room for the committee, and to distribute the monthly circular of the chamber to each subscriber, on certain conditions.

The committee, in a circular, declare that the society is not formed in any way, directly or indirectly, as a "Defence Society," for the purpose of mutual protection of its members against the legitimate operations of the Adulteration of Food Act, but, on the contrary, that they hail with satisfaction any attempt, legislative or social, to prevent adulteration, and consider that any such attempt deserves the support of every honest trader. At the same time they state that the Act, as it stands, may, through mistake or carelessness quite as readily injure the innocent as punish the guilty, and they consider that the first step to be taken is the appointment of an analyst of high standing, and to arrange with him the best means of obtaining samples and conducting analyses; and the committee feel sure that this being done, and the result communicated to the vestries and district analysts, no one would believe that the society desired in any way to dictate, but only to suggest and aid the attainment of the object of the Act in its fullest sense, namely, the protection of the public from fraud. This object would, say the committee, be more interfered with by the unjust prosecution, by mistake, of one honest man, than by the escape of a dozen dishonest traders. They also propose that the analyst to the society should be instructed to examine milk on its arrival from the country, and that action should be taken against farmers and wholesale vendors found knowingly to supply adulterated milk.

Another advantage the committee thinks will be gained through union with the National Chamber of Trade, is the practical assistance which those trades that come under the Adulteration Act would give to any movement for modification or amendment of the same, and the moral support of the other associated trades in the endeavour on the part of all honest tradesmen to check adulteration. Such a movement, honestly carried out, must of necessity succeed, and it may help the committee to inform the readers of the *Food Journal* that all communications respecting membership are to be addressed to Mr. E. T. Brooks, 10, Duke Street, Piccadilly, S.W.

---

THE late Baron von Liebig, notwithstanding his pre-eminence as a chemist, his ability as a philosopher, and success in unlocking many of Nature's hidden secrets, appears to have hovered over and around a very simple article of daily food without discovering its use in the animal economy. "Gelatine," he tells us in his admirable Letters on Chemistry, "possesses no nutritive value; that, even when accompanied by the savoury constituents of flesh, it is not capable of supporting the vital process, and when added to the usual diet as a substitute for plastic matter, does not increase, but on the contrary diminishes, the nutritive value of the food, which it renders insufficient in quantity and inferior in quality." In direct opposition to the chemist's teaching is the recent testimony of Dr. Carl Voit, whose researches into the object fulfilled by gelatine have been strangely rewarded. He has made two highly important discoveries—first, that an increase in the consumption of gelatine by an animal is immediately followed by a diminution of the albumen decomposed in its organs; and secondly, that its use lessens the consumption of fat. Now, if we reflect that all animal life not only springs from, but is intimately dependent on, the presence of albumen from the first breath to the last, and that the genial warmth so necessary to existence is derived from fat, we shall at once perceive the importance of Dr. Carl Voit's discovery, and acknowledge the value of any substance such as gelatine which serves to economise albumen and fat in the animal organisation.

---

FOR some time past we have given prominence, in our columns, to the startling frauds practised on the public of several districts in Ireland by the adulteration of milk, and we have at the same time recorded the heavy penalties that have accrued from the

practice to the fraudulent vendors. Our remarks have generally applied to the south of Ireland, or more especially to the city of Dublin; but it has now become our duty to lay before our readers a few cases of a totally different kind, which have lately occurred in Belfast. At a recent sitting of the Belfast Police Court, three farmers were prosecuted and fined for adulterating buttermilk. In the first case, 19 per cent. of water had been added; in the second case, upwards of 29 per cent.; and in the third case, an addition of no less than 40 per cent. had been made. One of the defendants seemed to think that an addition of 19 per cent. of water was no more than was really necessary, but the magistrate took a different view of the case. In the first two cases, a penalty of 5*l.* and costs was inflicted in each, and in the last, 10*l.* and costs. The presiding magistrate (the mayor) remarked that it was a very serious thing to supply such trash to the poor working people of Belfast, who were the chief consumers, and he was afraid the vendors had made large sums out of that sort of traffic, to which the magistrates would endeavour to put an end. He hoped the penalties they had imposed would be a warning to all who might hear of them; and if similar cases were again brought before the bench, they would go on increasing the penalty, till the maximum of 50*l.* had been arrived at. These penalties seem to have been well deserved, at least in the opinion of the public. Not so, however, to John Young, the farmer whose buttermilk was found to contain 19 per cent. of water, who, failing to be convinced that he had done anything whereby to merit a fine of 5*l.* with costs, appealed against the magistrate's decision at the Belfast Recorder's Court. The Recorder dealt with the case at considerable length, and reviewed the Adulteration Act minutely. The first section, he said, dealt with those who mixed, or ordered to be mixed, with any article of food or drink, any injurious or poisonous ingredient. The second section dealt, not with those who mixed, but who sold any articles of food or drink with which, to the knowledge of such person, any ingredient injurious to health had been mixed. Then followed a clause which said nothing as to the knowledge of the person selling an admixture injurious to health; but simply provided that any person who should sell as unadulterated any article of food or drink which was not so, should forfeit and pay a penalty not exceeding 20*l.* He could not but think that to mix water with milk was to adulterate the latter. It might not be injurious to health, directly and positively, but it was indirectly. Milk, and

even buttermilk, had most nutritious qualities when pure; dilute them, or either of them, although with what was innocuous in itself, yet if it were innutritious, the article diluted was, of course, impoverished; and whoever bought it as a genuine article was necessarily cheated, and got the bulk or measure increased beyond its proper proportions, in violation of the Act of Parliament, an Act practically affecting the people. After a comprehensive description of the manner of treating buttermilk during the process of churning, his Worship said that on the whole, he was of opinion that the Act had been violated. But as he had evidence that the buttermilk taken into the market by Mr. Young was generally of a very high quality, and as he did not think he had any base or premeditated design to increase his gains by fraud, he should mitigate the penalty to 10s.

---

THE magistrates of Abbeylax, in Queen's County, Ireland, have read a milk vendor a lesson which it may be hoped will prove a salutary one. The accused contracted with the Board of Guardians to supply milk to the workhouse, and he did supply an apology for milk, which, on being tested, was found to contain 25 per cent. of water. As he had been previously convicted for a similar offence, he was fined 25*l.*, and it was further ordered that he pay the expense of advertising his name, address, and offence in the local newspapers. In Belfast, too, the authorities are actively engaged in protecting the poor from the systematic practices of adulterators. J. F. Hodges, M.D., F R.S., the borough analyst, recently certified to the magistrates that a sample of buttermilk submitted to him had been diluted by the addition of 22 per cent. of water; it contained only  $6\frac{1}{2}$  parts in 100 of solid matter, the lowest amount of genuine buttermilk being  $8\frac{1}{2}$  per cent. The sample of another offender was deteriorated by the addition of 25 per cent. of water. The latter accused was a farmer with a dairy of twenty cows, and he was fined 5*l.* and costs.

---

IF the example set by the authorities of Dublin in matters of adulteration, and in minor details of petty traffic by which the consumer is systematically victimised, were imitated more extensively, a social and commercial reform would be effected, the beneficial results of which cannot be duly estimated. We have, in previous publications, drawn favourable comparisons between

the measures adopted in the metropolis of Ireland for the punishment of adulterators and those carried out in many populous parts of this country, and our object in re-inviting attention to the subject is, if possible, to stimulate our authorities on this side of the Channel to the exercise of the very wide powers with which the Legislature has invested them. We are led to these remarks by the eleventh annual report of the eminent analyst, Dr. Cameron, of Dublin, who periodically informs the Corporation of that city of the extent to which the inhabitants are cheated and poisoned by the vendors of food, drink, drugs, tobacco, and other articles of daily consumption. One writer, referring to the report, draws a very appropriate simile: "It is like drinking a nauseous medicine out of a phial of Bohemian glass." As a set-off, there are pages administering comfort to the mind, and which contain the long lists of the rogues and poisoners who have been convicted during the year, together with the offence, the penalty, and the address of each of them opposite to his—or, as is sometimes the case, *her*—name. The fines vary from 5s. to 10*l.*, 12*l.*, and, in one or two instances, to 15*l.* To these penalties have to be added the column of law costs, which are refreshingly heavy from the honest trader's and honest consumer's point of view. For instance, one woman adulterated her milk with 80 per cent. of water, and was amerced in 10s. penalty and 2*l.* 10s. costs; another woman was fined four several times in sums of 2*l.*, 5*l.*, 7*l.*, and 10*l.*, and opposite these fines stand equally heavy costs; a third woman was fined 5*l.* and 10*l.* for selling unsound food. It is worthy of note that most of the offenders tabulated by Dr. Cameron hail from districts at a considerable distance from the prosperous quarters of the city, proving conclusively that it is the poor who are victimised by the adulterator, the vendor of unsound meat, and him of the false balance. There were condemned last year in Dublin, as unfit for human food, 267 carcasses of oxen, 19 of calves, 42 of sheep, and 149 of pigs. There were seized 13,140 lbs. of unsound fish, 16,000 lbs. of bacon, and 30,000 lbs. of unsound pork. A sample of snuff was found to be adulterated with 30 per cent. of alkaline salts. Bread and flour continue to be adulterated with alum, rice-flour, and 20 per cent. of plaster of Paris; coffee, with cheap but harmless chicory; tea, with catechu, gum, and exhausted tea-leaves; and butter, with fats. Some of the specimens of wines were wholly spurious. It is gratifying to find that, in consequence of the vigorous action taken by the authorities, the sale of adulterated sweetmeats and of cakes coloured with poisonous pigments has been entirely suppressed. It is much to be desired that an official

report of the kind from which we have here quoted should be distributed in thousands through the dwellings of the poor, in order that the real victims may be placed upon their guard.

---

It may be interesting to some of our country readers who are engaged in rearing cattle for the Metropolitan Market, to learn, that as far back as 1773 a cure had been found for rinder-pest. The *Westminster Magazine* for December of that year says:—

“A letter from Mecklenburgh states, that a remedy has been discovered there for the distemper incident to horned cattle. It is no more than feeding the diseased beasts with crab-apples; the same fruits put into water and given the cattle to drink, has been found to prevent the distemper.”

There is a simplicity about this suggestion, and ranking as it does, both as a preventative and a cure, which surely entitles it to a fair trial.

---

AN eminent Sicilian cook of the name of Mithæcus once made up his mind to settle and follow his profession in Sparta, not being aware of the peculiar opinions on gustatorial subjects of the Lacedæmonians. To his astonishment and intense disgust his appearance not only elicited no welcome, as a benefactor of the species might have anticipated, but he was peremptorily ordered by the magistrates forthwith to withdraw. Public opinion has, fortunately for the disciples of Apicius, undergone some modification since those remote days, and the once despised cook has now blossomed into an *artiste* whose prelections are even listened to by Royalty. That the International School of Cookery at Brompton must ere long be productive of improvement in our national cuisine surely no one can doubt; neither need there be any question as to the genuine interest the novel spectacle offered there has created. Day after day we find the lecture room thronged by ladies and gentlemen eager to learn the mystery of *pot-au-feu*; the magic of a golden omelette; or the witchery of maccaroni and cheese done to a second. And yet this is not astonishing when we find the most exalted lady of the land, accompanied by her daughters, gracing the spot by her presence. We can fancy the amazement of Sir Thomas Elyot, who published a quaint and curious cookery book in 1541, could he rise from his grave and listen for an hour to Mr. Buckmaster. Sir Thomas says:—“The biefe of Englande to Englysshemen whiche are in helth bringeth stronge nouryshynge, but it maketh grosse bloude and ingendereth melancholy; but



beyng of yonge oxen not exceedynge the age of four yeres, to them which have colerike stomakes, it is more convenient than chickens and other like fyne meates." As an experiment the School of Cookery is a great success, and we are glad to learn that it is to be extended and developed into a practical school where each student may personally prepare and dress the various dishes. When this improvement has triumphantly emerged from the test of experience, we shall look for the establishment of cookery schools in each of the poorer districts of London, and indeed in the poverty-stricken neighbourhoods of every large city throughout the United Kingdom. It is no longer a question of importance, "When shall we dine?" and the ancient monastic triplet—

"Lever à cinq, diner à neuf,  
Souper à cinq, coucher à neuf,  
Fait vivre d'ans nonante et neuf"—

falls upon our ears without creating either interest or emotion when we reflect that thousands in this mighty London rarely ever dine at all. It is this multitude of the indigent and forlorn, who cannot avail themselves of the lucid Brompton instruction, for whom we plead, as it is by them and our sturdy toilers that such education is most required.

---

"MARRY, Sir, she's the kitchen wench, and all grease, and I know not what use to put her to, but to make a lampe of her, and run from her by her own light." So wrote Shakspeare, in the "Comedy of Errors," and, since then, the unfortunate servant of civilised society—the flushed female who unites the discharge of domestic drudgery with those mysterious manipulations on meat and vegetables called cooking, has been sometimes the comfort, but more frequently the bane of every British home. Born at once to a distinguished yet lowly position in life, her shortcomings and failings have ever been noted and criticised, without much being done for the amelioration of her condition. Among the delinquencies laid to her charge, is that of fondness for alcoholic drinks, and a partiality for the society of the nearest policeman; both social offences, apparently peculiar to the British cook, as we never hear of them in connection with foreign domestics holding similar situations. As there is no physiological reason why our cooks should too frequently betray a tendency towards liquor, the explanation must be sought for in their surroundings, and we need not travel far in order to discover it. Our subterranean kitchens are, as a rule, unwholesome, unventilated ovens, in which a minimum of available

heat is extracted from a maximum of wasted fuel. Tasting the dishes in progress, enveloped in a perpetual culinary steam, and dripping with perspiration, what wonder is there that thirst should be created, and a craving for drink developed? Chemistry and cookery are not only closely allied, but they are regarded by many of their enthusiastic professors as belonging to the Fine Arts. What does Ben Johnson say of the London man-cook :—

“ A master cook ! why, he's the man of men,  
For, a professor ! he designs, he draws,  
He paints, he carves, he builds, he fortifies,  
Makes citadels of curious fowl and fish :  
Some he dry-ditches, some moats round with broths ;  
Mounts marrow-bones ; cuts fifty angled custards :  
Rears bulwark pies ; and, for his outer works,  
He raiseth ramparts of immortal crust ;  
And teacheth all the tactics at one dinner.”

But the chemist has long ago acknowledged the necessity for ventilation, and has judiciously abandoned the rudimentary and comparatively barbarous coal fire, for the more satisfactory and cleanly gas stove. Herein, indeed, lies the secret :—Ventilate your kitchens, compel your cooks to trust more to weight and measure, and less to taste, use gas alone for every culinary operation ; and the drinking cook will speedily disappear, and be only dimly known to our grandchildren through the pages of some ancient novel.

---

THE *Cultivator* makes the following remarks on the cooking of the cabbage :—The cabbage is in many houses a forbidden dish, because the odours which arise from its cooking are disagreeable ; but if these directions are followed, there will not be much, if any complaint. Quarter the cabbage the night before it is required, and remove the hard stalk ; wash it well, and cut into small pieces. Next morning change the water, and, when ready to cook, put the cabbage into a large pot of boiling water, with a small teaspoonful of saleratus (carbonate of potash) added to it ; boil steadily for forty or fifty minutes, but take care that the water does not boil over upon the range or cooking-stove, for this is one of the chief causes of the disagreeable odour which fills the house. If you are cooking corned beef at the same time, you may, after skimming it thoroughly, add a pint of the liquor in which it is boiling to the cabbage, as some like the meaty flavour, or, if there is no beef liquor at hand, a piece of beef-suet will answer the purpose ; but cabbage should never be boiled in the same vessel with salted meat, as it spoils the flavour of both. When the cabbage is so well boiled

that it will easily mash with a knife, skim it out into a colander, press out all the water, and season it with butter, salt, and pepper. Prepared in this way, cabbage really becomes an inviting dish, and is a very healthy one. It is because it is so often badly cooked that it has fallen into disrepute. If you prefer to have the cabbage more shapely, it may be halved only, and the hard stalk cut out; then tie it up in a piece of coarse muslin, and boil for one hour, always putting it into boiling water at first.

---

THE terrible physical sufferings endured by the Parisians, and shared by many unfortunate foreigners who happened to be within the iron belt during the siege of the Gay City by the Teutonic forces, have become a matter of history. Not so the mental horror which must since have preyed on many a sensitive organisation on perusing the recent account of the trial, in Paris, of a wretch for selling pies made of human flesh during the bombardment. Meat pies, even in times of peace and plenty, amidst a great centre of population, are, at once, a mysterious effort of perverted ingenuity, and a hazardous investment; although the worst usually said of them may be that feline or canine choppings form their chief ingredients. It is true that during hard times people will eat almost anything in order to allay hunger and prolong life, as, at the siege of Gibraltar in 1780-83, rats and mice were eaten by the brave, and ultimately victorious, garrison. But there is something so utterly horrible in cannibalism, even although inadvertent, and in the deliberate calculation of this Parisian monster, that we do not wonder his unnatural crime, in exciting the utmost loathing throughout France, has enveloped the perpetrator with crushing punishment.

---

INFANTS fed upon arrowroot and other starchy substances, in place of mother's milk, are, according to eminent medical and chemical authorities of the day, being slowly starved. It appears that a child, for several weeks after birth, secretes no saliva, consequently a starchy diet cannot be assimilated by the little one. Why, therefore, except in the most extreme cases, should artificial food be thrust upon our offspring at all? Nature has provided an ample fountain, the chemical constituents of which are so perfectly arranged and combined for the nourishment of the infant,

that any attempt at imitation, dictated by fashion or fancied weakness on the part of the mother, generally ends in melancholy failure.

---

TEA cultivation in India seems to increase satisfactorily, and promises to reward those who, with a combination of skill and economy, engage in it. From recent accounts it appears that in Kangra Valley thirteen retired English officers, and fifteen natives own 7,732 acres, and that the crop yielded last year, from the 3,292 acres under bearing, was 438,655 lbs. of black and green tea. The average for eight of the most successful gardens was 230 lbs. per acre. If we take into account that this result has been achieved during the course of only six years, and that the yield is less than one-third the quantity obtained in some other parts of India, the importance of perseverance will be apparent. But even although the quantity and quality of the Kangra Valley tea should never rival that of Assam, we must not forget that the immensely superior climate and general salubrity recommend the Kangra district as the field for young men of energy, experience, and limited means, who might hesitate to encounter the miasma of the plains intersected by the Brahmapootra.

---

## CORRESPONDENCE.

---

*To the Editor of the "Food Journal."*

SIR,—It is said that amongst the British exhibits at the Vienna Exhibition is a Portable Cooking Apparatus intended principally to be used in the street for cooking workmen's dinners. The apparatus, it is further stated, is attracting much attention, but I have as yet seen no description of its principle or its powers. Not long since, however, a very portable and cheap stove, so far as the consumption of fuel is concerned, was shown me by a bachelor friend. It was called the Crimean Cooking Stove, and I was told it was used by the English in the celebrated Crimean campaign. It is made principally of tin, and is about 2 ft. high, 8 in. wide, and 2 ft. 6 in. long. Charcoal is the fuel used, and it is placed in a grate or receptacle in the centre of the apparatus, while on the top can be fixed a kind of square saucepan, and on each side, and indeed entirely surrounding the fire, are other receptacles for cooking or heating food either by boiling or stewing. My friend told me he could cook a plain supper for two or three persons with about one pennyworth of charcoal. The apparatus, which seems to me so economical and portable that I wonder it has not been generally used, was given to my friend by an old Crimean campaigner since dead, consequently I could get no information where to obtain it. Perhaps some of your readers may know more about it, and will supply me with the information.

Truly yours,

May 6, 1873.

J. R. J.

## MARKETS OF THE MONTH.

---

SINCE my last report the wall-fruit has been cut, killed, or nipped in the bud; apricots, peaches, and nectarines will be scarce this year; the plum tribe is, I fear, irretrievably lost; but gooseberries, currants, cherries, apples, and pears may yet prove abundant. On the farms the wheats are looking well, but the barleys only promise a moderate crop, especially on light lands. Beans and peas will improve if we have rain, as also will clovers and roots.

The sugar market is unsettled in consequence of the reduction of the duty; prices rule very low, but symptoms of a firmer tone are apparent. The reduction of duty, I may perhaps remark, is about one-half of the old duty for all qualities. The coffee market is firm, but the demand is not brisk. There has been more general demand in the tea market, but prices do not show any improvement. The price of coal is lower, but as soon as the market shows signs of depression, the colliers strike or work less time, and so continue to keep up prices. Our coal supply is now under the consideration of a Parliamentary committee, and it is to be hoped that they will arrive at such a decision on the subject as will cause steps to be taken to protect the consumers, not only from the rapacity of the coal-getters, but also from the apathy of the mine-owners. The cattle market and the meat market do not present any features worthy of especial notice; prices remain much the same as last month, but lamb, of course, has become slightly cheaper, although for the time of year the figure is unusually high. The corn market, too, is quiet; abundant supplies of foreign corn continue to arrive, and are sold at former rates, and there can no longer be any doubt that we are almost independent of our own harvest for a supply. In the ordinary nature of things the harvest of last year would have produced famine prices; but the result has been otherwise, thanks to the effect of steam and the enterprise of commerce, in facilitating communication with the most remote portions of the known world. The potato market is dull; old potatoes are becoming *too old* for use, their place is being supplied with the fresh vegetables of the season. Good samples, however, maintain almost

former prices, but trade is dull ; and foreign continue to arrive, but do not find so ready a sale as last month. New Malta, new Lisbon, and Cornish and Jersey kidneys are more in demand ; the two former are retailed at 2*d.* per lb., the latter at 8*d.* ; forced potatoes, "Ashtops," are becoming more plentiful, but they command a good price, 1*s.* to 1*s.* 4*d.* per lb.

Mackerel are now in prime condition, price from 4*d.* to 8*d.* each ; abundant supplies are arriving, the east coast fisheries sending their quota to our markets ; lobsters and crabs are very cheap ; prawns are now in full season ; as also is salmon, but some untoward circumstances have occurred to render this delicious fish extraordinarily dear, prices during the past week having ruled from 2*s.* to 2*s.* 6*d.* per lb., wholesale ; it is now cheaper, the last quotation being 1*s.* 10*d.* ; the price at this season generally ranges from 1*s.* 4*d.* to 1*s.* 8*d.*, rarely higher. What is the cause ? Turbot, brill, haddock, whiting, trout, and many other species of fish are numerous and cheap ; whitebait, mysterious denizen of the reaches of the Thames, is now in full season, price from 2*s.* 6*d.* to 3*s.* per quart. Soles are a drug in the market, so plentiful are they.

Ducklings are scarce, price from 4*s.* to 4*s.* 6*d.* ; chickens are more plentiful, from 3*s.* to 4*s.* 6*d.* ; goslings, from 8*s.* to 10*s.* 6*d.* ; ruffs and reeves, 1*s.* 3*d.* and 9*d.* ; pigeons, 10*d.* to 1*s.* ; plovers eggs, 3*s.* 6*d.* per dozen ; leverets, 4*s.* to 6*s.* 6*d.* ; and fat quail, 1*s.* 6*d.*, are almost the only commodities which Leadenhall has for sale at this season. There is a large supply of live quails in cages at 1*s.* each, but these are just as they arrive, not fat, and experience will show that these birds can continue to consume a vast quantity of hemp seed, no small element in their expense as sold for the table, in the space of a few days, for if kept well supplied with seed and water they become very fat in a marvellously short time.

Green peas from France may be purchased at from 6*s.* to 12*s.* per pad ; strawberries from 10*d.* to 1*s.* per oz. ; cherries, in boxes, from 2*s.* 6*d.* to 3*s.* 6*d.*, and apricots, from 2*s.* 6*d.* to 3*s.* 6*d.* per box. Oranges and lemons are becoming dearer. Salads and all spring vegetables are cheaper ; but asparagus is unusually scarce, in consequence of the cold weather, and costs from 4*s.* to 8*s.* per bundle. Eggs are slightly dearer, price 8*s.* to 9*s.* 6*d.* per hundred for fresh English ; foreign slightly lower.

Salt butters are almost unsaleable ; fresh butters plentiful at prices ranging from 1*s.* 4*d.* to 1*s.* 10*d.* per lb. Bacon, of good quality, is very dear ; hams are tolerably plentiful at former prices ; pork remains cheap.

*May 21st, 1873.*

P. L. H.

## DOMESTIC RECIPES.

---

*The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.*

---

### MY GRANDMOTHER'S RECIPES.

#### CALVES'-FOOT JELLY.

Take four calves' feet; put them in a saucepan that holds four gallons; let them boil fast till they are boiled to pieces, or nearly so; then strain through a sieve. When cold, put 2 quarts of jelly, 1 quart of mountain wine, the juice of 6 large lemons, sugar according to taste, and the whites of six eggs beaten to a froth; mix all together, and boil; then run it through a bag into a bowl on to a good quantity of lemon-peel; pour into shapes, and, when the jelly is stiff, turn it out.

---

#### A GOOD BREAD PUDDING.

1 lb. of bread, 1 lb. of suet, 1 lb. of currants, a pint and a half of milk boiled and poured over the bread, &c.; seven eggs, a small nutmeg, three spoonfuls of wine or brandy; sweeten to taste. Sweetmeats may be added. Bake for one hour and a half.

---

#### TO PICKLE RED CABBAGE.

Shave your cabbages into thin slices, and between every layer sprinkle salt and whole allspice; pour on cold vinegar till you cover them; lay the cabbage in lightly, 'tis soon fit for use.

---

#### A COMMON PLUM CAKE.

Take 2 lbs. of flour,  $\frac{3}{4}$  lb. of currants,  $\frac{3}{4}$  lb. of sugar, five eggs,  $\frac{3}{4}$  of a pint of milk, one spoonful of yeast, a glass of brandy and a little nutmeg. You may add  $\frac{1}{2}$  oz. of lemon and  $\frac{1}{4}$  oz. of butter.

---

#### A RICH PLUM CAKE.

Take 2 lbs. of flour dried by the fire,  $1\frac{1}{2}$  lb. of fine sugar, a pint of new milk boiled; melt into it  $1\frac{1}{2}$  lb. of butter. When cold as milk from the cow, mix with it  $\frac{1}{2}$  pint of thick yeast, three eggs well beaten,  $\frac{3}{4}$  lb. of jar raisins stoned and chopped. Set before a fire to rise for half an hour; then beat it well, and add 4 ozs. of almonds blanched and beaten, 4 ozs. of candied peel,  $\frac{1}{4}$  oz. of mace, a gill of brandy, and 1 lb. of currants well picked and dried. The currants not to be put in till the cake is ready for the oven. Bake three hours.

THE  
FOOD JOURNAL.

---

INTERNATIONAL EXHIBITION.

---

WE have visited a portion of the food galleries, the School of Cookery, and the food preparing machinery and processes, which still continue to attract large numbers of interested visitors; and now, before completing our survey of the first-named portion, we propose to speak of the highly important class of cooking stoves and apparatus.

The great mass of this class of articles is placed in Room No. 23, in the South Gallery, beyond the refreshment rooms of Messrs. Spiers & Pond, and the show of apparatus for cooking by means of coal, gas, and other fuel, is large, and at the same time select, most of the best English makers being represented, while each exhibits only his choicest productions.

The greatest economy in cooking is of course shown in those apparatus which are arranged for preparing food for large numbers, without any view to the warming of apartments or other objects; and in the getting up of such apparatus our manufacturers exhibit constant improvement of parts, with workmanship and solidity, that cannot be surpassed. Amongst these, none have a greater claim to our notice than the cooking apparatus for the Army and Navy, and large public establishments.

Messrs. Benham & Sons, of Wigmore-street, London (*see* Catalogue, No. 4713), show a large cooking apparatus for hospitals, workhouses, etc., including a large brick oven, with a steam boiler above it, roasting and baking ovens, boilers, steamers and hot-plate, all heated by one furnace, formed of unusually thick castings, and put together in the best manner; a grill, or chop-stove, for restaurants and chop-houses, solidly built, and highly finished for



effect, the huge gridiron suspended by chains in such a manner that it can be raised or lowered in an instant, and the angle altered to suit the fire; a large kitchener, for clubs, etc.; a circular cooking apparatus, for passenger ships; and a square ship's stove, for 200 men, as supplied to the Royal Navy, all of the same solid make. They also exhibit a kitchener in the School of Cookery, and a specimen of the most economical range planned for married soldiers' use, consisting of a clay lump for the fire-hole, small open fire, oven, and an arrangement for the supply of pure warmed air to the room in which it is set.

Messrs. Bowser & Son, of Glasgow (Catalogue, No. 4714a), show an excellent, strong cooking apparatus for ships of war, as used in the Royal Navy, well known for its economy and convenience.

Messrs. Adams & Son, of the Haymarket, and Marshall Street (Catalogue, No. 4701), exhibit apparatus for the use of the army, and for large establishments, such as hospitals, of the same solid construction as those already referred to, and deserving careful study. In the cooking apparatus for the Army, Capt. Warren's system of economical cooking boxes and steamers is exhibited in its simplest form, the boxes being packed on and about a furnace, much in the same way as baggage on a mule's back. These Warren boxes and cooking pots are applied also to kitchen use, and have already a well deserved reputation. The meat is placed in an inner vessel fitting into another containing water, and is cooked entirely in its own juices, without any admixture of steam or water, thus the smallest possible amount of waste is occasioned, while the steam from the lower and outer vessel cooks vegetables and other things in steamers placed above in the ordinary way. The double covers of these cooking pots also receive the steam, and thus add to the economy, by preventing the loss of heat by radiation.

Messrs. Jones & Rowe, of Worcester (Catalogue, No. 4725), also show a range fitted up expressly for hospitals, asylums, barracks, and other establishments, in which they have been largely adopted.

Mr. Tallerman, of Cannon Street (4752), exhibits, near the entrance of the School of Cookery, one of the great *Caftières*, by means of which the French Army is supplied with coffee, such as is found in few of the better English houses.

The show of cooking ranges, or kitcheners, is large and excellent, but space will not allow of extended notices of even the most remarkable; the exhibitors are:—Mr. Addis, of London (4703):

Mr. Badger, of Worcester (4711); Messrs. Bailey (4712); Messrs. Benham (4713); Messrs. Brown & Green, (4717); and Messrs. Edwards, of London (4720); Messrs. Flavel, of Leamington (4721); Mr. Gray, of Torquay (4722); Messrs. Hassall & Singleton, of Birmingham (4724); Mr. T. Nock, of Birmingham (4729); Messrs. Poore & Co., of London (4729a); Messrs. G. Wright & Co., of Rotherham and London (4734). It must be remarked that in general, the patterns of the ranges are plain, and the fittings strong and durable; and that there is almost an entire absence of unnecessary fine finish, polish, etc. Another excellent point is the general tendency to make the flues complete in themselves, and independent of bricklayers' work, and so to distribute the heat that the top, bottom, and sides of the ovens shall receive, as nearly as possible, the same amount. Messrs. Wright exhibit two small kitcheners of rather unusual form; the oven is large, and placed beneath the fire; the flues are so arranged that the heat passes down both sides of the oven, across the bottom, and up the back. The adoption of fire-clay bricks and slabs for the fireplace, and of tiles for the upper portion and doors of ovens, are also good points; both add to the economy, and the latter to the cleanliness and bright appearance, of the apparatus. The adoption of steps or brackets, and, in the case of Mr. Nock's range of a continuous fender on a level with the bottom of the ovens, so that the cook may draw out heavy dishes easily and safely, deserves notice.

In all these stoves, in deference to English habits and tastes, the hot plate and chimney fittings are so arranged that when little or no cooking is going on the fire can be immediately converted into an open one. With careful people this is an advantage; but it must be borne in mind that for strict economy the open fire is extremely wasteful, and we are glad to find that, in London at least, this fact is now beginning to be understood, and cooking apparatus with close fire-holes only are coming into use. Their adoption gives not only an economy in fuel, but a still further saving on account of the greater simplicity of the stove itself.

Portable stoves, as they are called,—that is to say, stoves which require no setting,—have been for a considerable time in use in America, on the Continent, and in the Colonies, and are beginning to find their way into English cottages and small houses. One of these stoves in a back kitchen will suffice to do a fair quantity of cooking, and leave the front kitchen cool in summer; and it makes an excellent ironing stove. With the slightest intelligence on the part of the cook, these stoves do excellent service,—we speak

from long experience,—but they are liable, without that care, to become over-heated, and they have the inherent fault of wasting too much heat by radiation. The points to be looked to in such stoves are—that the parts should not be too thin; that the fire-hole should be either a very solid iron casting, or formed of fire-clay; that the side of the oven in particular should be well protected in that way, or it will soon be destroyed. If these points are attended to, a portable stove is a valuable apparatus. Excellent examples are shown at the Exhibition by Messrs. Chavasse & Co. (4704), Messrs. Bailey (4712), Messrs. Brown & Green (4717), Mr. Constantine (4719), Mr. Murdoch (4728), and Messrs. Poore (4729a), all of London. Mr. Murdoch shows a modified form for sitting-rooms, offices, etc.—an open fire-grate with fire-clay linings, and place above for two saucepans, concealed by an ornamental top: a neat arrangement.

Amongst the food exhibits in the Upper East Quadrant will be found a few small cooking utensils deserving of attention. Mr. Smætt, of Buckhurst Hill (4733), shows an ingenious and very useful adaptation of the old hearth-oven, under which millions of Scotch bannochs and Australian *dampers* have been cooked; it is called a sub-fire oven, and consists of a tin dish placed in one of larger dimensions which has three internal projections in the bottom, so that space is left for a small quantity of water; a tin overlapping cover makes the whole complete, so that it may be placed, on a stand if necessary, immediately under an ordinary fire, or on the hearth covered with hot ashes. Kidneys or other small matters are cooked in about seven minutes by this oven, but its principal value seems to be in warming up cold food and in keeping cooked articles warm, the water between the dishes preventing drying up the gravy and juices. A loose iron handle is provided by means of which the oven is easily managed.

The Atmospheric Churn Company (4129) exhibit a clever bachelor's cooking dish, consisting of two hollow pans, one holding the food to be cooked, the other acting as a reflector. With this little apparatus a chop is cooked in about ten minutes, with waste paper only as fuel.

Messrs. Chavasse & Co., of London (4704) have a useful little "hot-air oven," a pair of deep oval iron dishes, shutting closely, the lower one having a false bottom pierced with holes. Potatoes, chestnuts, and other things may be cooked by this oven either on or in the fire.

The important subject of cooking by gas, etc., will be noticed next month.

SOME FOREIGN FRUITS.

---

THE appearance some time since of a large consignment of lychees and loquats has directed renewed attention to these and other foreign fruits. I remember seeing, thirty years ago, a large basket of lychees standing outside a shop in Bishopsgate-street; but though many passers-by must have wondered what the rough brown things were, and the price asked was not by any means exorbitant, there did not appear to be any very brisk demand for them. Nor is there any reason why there should be; for, apart from curiosity, they have no such special value as a dessert fruit that they should command so high a price as that which was lately asked for them—5s. to 6s. per lb.—when fine dates, which are so far superior, are obtainable at less than a fourth of the cost. This remark, it is fair to say, applies to them only in the *dry* state, in which alone they are obtainable in England. They then resemble a tough raisin with one large stone, about the size of a haricot bean, instead of the three or four seeds of the raisin, and with a peculiar flavour, certainly not equal to either the muscatel or the date.

The *fresh* fruit is a very different thing, both in appearance and flavour. When picked from the tree—on which it grows, not in bunches, like the grape, but each fruit on a separate stalk—it is a nearly round or slightly pointed fruit of about an inch and a half in diameter. The rind, which is tough, and tears off clean without adhering to the flesh, is green, tinged with a red-brown on the side exposed to the sun, and scored with ribs or fibres which divide the surface into hexagons, giving it something the appearance of a sealed honeycomb. As the fruit dries, these ribs contract and throw the hexagons up into the raised warty form of the dried fruit of the shops; the colour also changes to a light brown, and the shell becomes brittle and the more easily broken, since the fruit has also contracted in drying till it fills little more than half the interior. The flesh of the fresh fruit has a very delicate flavour quite peculiar to itself, resembling the Portugal grape in the toughness of its texture, though vastly superior to it, or to any but the very choicest grapes.

A discussion took place some months ago in the columns of the

*Gardener's Chronicle* as to its merits as a fruit, and, having eaten a few pecks myself, I may venture to say that I quite agree with the opinion that was there expressed—that if the plant could be fruited in England, so that it might be obtainable in its fresh state, it would form a very desirable addition to our dessert-table, but that as a dry fruit it is not one that customers would care to buy, except for once, perhaps, as a novelty. I do not see any reason why it should not be grown in our orchard houses, even if it could not ultimately be acclimatised, for it seems to be a moderately hardy thing, growing freely by the roadside in Southern China. I have broken off boughs laden with fruit as I walked along in the neighbourhood of Whampoa, and I believe that it grows as freely for a considerable distance to the northward. Judging by latitude only, it will be said that this is just on the verge of the tropics. So it is; but the frosts are severe at times on all parts of the east coast of China, and at Whampoa itself. It was stated in the *Gardener's Chronicle* that some plants were imported as long ago as 1786 by the then Duke of Northumberland, but there does not appear to be any record of what became of them. However, both the facilities of transport and horticultural science have developed so much since that date, that the former failure of the experiment is no proof that it would not succeed, if tried now, under such vastly improved conditions. I certainly think it is worth trying.\*

The mangosteen (*Garcinia mangostana*), on the other hand, is a very delicate fruit, which it is almost hopeless to attempt to remove from its native soil. It will not thrive even in India, and I believe is not found anywhere but within the narrow limits of Java, Borneo, the southern half of Sumatra, and the smaller islands in the immediate neighbourhood. It has obtained so high a reputation that it is said to be worth a journey to Java to eat it. "See Naples and die," is another equally hyperbolic expression. Still the mangosteen, though not by any means justifying such extraordinary raptures, is a delicious fruit, particularly agreeable in a hot, thirsty climate, having nothing sickly or luscious about it, but an extremely pure, delicate, clean flavour, corresponding with its appearance, which is white as the snow-flake, and like snow it

---

\* With regard to the name, which is pronounced ly-chee by some and lee-chee by others, the proper botanical name is *Euphoria Litchi*, but the *lch* must be taken together, so that the word divides into Li-tchi, not Lit-chi. If, therefore, the second *i* is to have the *ee* sound, the former should have it also, and Lee-chee would be the correct pronunciation; but as a matter of fact the Chinese about Canton and Whampoa, I think, invariably, so far as I remember, pronounce it Ly-chee.

dissolves in the mouth without the effort of eating. The mangosteen is about the size of a small orange, its external appearance being that of the pomegranate; the rough, dark, thick rind being cut through, the snow-like whiteness of the interior makes a striking contrast. The flesh of the fruit is divided into five lobes, like the divisions of an orange, each lobe having a large seed. The creamy pulp which surrounds these seeds is the part eaten. They are sold in "ropes," like onions, and the orthodox way of eating them is to sit in a pleasant spot with one of these ropes between your legs and peg away at them till it is finished. They are perfectly innocent. I made some attempts to bring a few home by dipping them in boiling pitch to exclude the air, and various other devices, but all were equally vain. On solemnly opening the pitch ball there was the dark rind, but the beautiful snow had vanished. This would indeed be an addition to our list of choice fruits, even it were obtainable only at great expense as a hothouse luxury, but the idea I fear is quite hopeless.

The loquat (*Eriobotrya Japonica*) or Japan quince, again, is moderately hardy, and might certainly be domesticated amongst us if we thought it worth while, but it is not a particularly valuable fruit in any way, being very little better than a hedge crab would be if it were soft in the flesh and very juicy, so that its acidity might be somewhat diluted. In size and shape it resembles a small hen's egg, with a slightly flattened head, and the downy eye and stalk of the quince. The colour when fully ripe is a deep golden yellow, turning to brown when bruised. The skin is thin and fine, like that of a yellow plum, and the flesh is similar in texture. A considerable portion of the fruit is taken up by two, three, four—I have this moment eaten one which had *five*—large brown seeds divided by a membrane. The growth of the fruit is very similar to that of the horse-chestnut, the fruits that set forming an irregular bunch varying in number, two, three, five, seven, or more in a cluster, according to the state of the weather when the blossom was setting. As to hardness, one would think that, so far as temperature is concerned, any plant which will stand the Japan winter, which is often severe, would flourish in a favourable situation in South Devon. But then, as I said before, it is a question whether it is worth the trouble. It is certainly very inferior to even a moderately good English apple, though people who like to eat green gooseberries raw would think it a magnificent fruit. So much do opinions differ.

This loquat must not be confounded with the cumquat, a kind of small citron that makes the delicious Chinese preserve, one of

the pleasantest additions to the dessert table that we get from abroad.

Of the Durian (*Durio Zibethinus*) I cannot speak from personal experience, for although I have been to Java and Borneo, in both of which islands it grows in great abundance, I do not remember ever having seen one, nor do I recognise the description of the fruit given me in print. I conclude, therefore, that it was not in season when I was in that part of the world, otherwise I could hardly have failed to preserve a vivid recollection of a fruit which is said to combine so offensive a smell with so delicious a flavour, that the wonder is how any one ever ventures to eat the first that is presented to him, or how, having once overcome the repugnance created by the smell, he ever can leave off eating so delicious a fruit. This curious mixture of the delightful and the disagreeable grows on a large forest tree, something like an elm in growth, but with the smoother bark of the birch. During the time that it is in season it forms a considerable part of the food of the natives, who use the unripe fruit for cooking as a vegetable. Ripe, it is described, in a glowing account before me, as "the finest fruit in the world." It is round or oval, about ten inches long, of a green colour, and so completely covered with sharp spines that it is a kind of vegetable hedge-hog, very awkward to lift from the ground when the stem is broken. The outer rind is very thick and tough, and the fruit can only be divided by passing a knife down one of the five faint lines, or sutures, with which the rind is marked. These lines divide the fruit into five sections, each of which contains two or three large seeds, surrounded by a rich creamy pulp, of which a newspaper cutting—the source of which is not acknowledged, and which I can therefore only quote as "a cutting"—says that "a rich butter-like custard, highly flavoured with almonds, gives the best general idea of it, but intermingled with it come wafts of flavour that call to mind cream-cheese, onion sauce, brown sherry, and other incongruities. There is a rich glutinous smoothness in the pulp which nothing else possesses. It is neither acid, nor sweet, nor juicy, yet one feels the want of none of these qualities, for it is perfect as it is."

GEORGE WALTERS.

---

THE CONTINENTAL WHEAT CROP.—Paris advices state that the wheat crop still leaves something to be desired in France. In Germany, Spain, Italy, and Hungary the crop prospects are, however, considered satisfactory.

PLATTER *versus* TANKARD.

---

WITH a lofty pretension of intellectuality, some people make a boast of an indifference as to what they eat, and aim at conveying the impression that they are above any such material employment, as the selection from a *menu* implies. It is a great mistake to suppose that the system, even in such elevated beings, is equally indifferent to the nature of the food supplied to it, for food has to be digested and, further, assimilated. Without digestion, speaking broadly, there is no assimilation; and beyond this negative disadvantage there is the positive one, namely, that, without digestion, or in the degree that digestion is interfered with, under the influence of the warmth and moisture of the stomach, certain unwholesome and even putrefactive changes take place in the food, which practically poison the system. Therefore it may be said that dining is the most important act of a man's life, especially of the life of the intellectual and initiative man. The food of the mere hand labourer is scarcely less a matter of consideration, since the amount of work he can perform is, *cæteris paribus*, mathematically in proportion to the quality and quantity of his food. "No song, no supper" may be, under certain convivial circumstances, an expedient arrangement; but "no supper, no song" is the real physiological postulate. The smallest twinkle of the eye involves an expenditure of substance, which must be compensated by food, no less definitely than the larger—shall we say waste?—incurred in making the ascent of Mont Blanc.

Food, to fulfil its requirements, must excite the palate—or, at any rate, gratify it—and stimulate appetite; for on these conditions the due secretion of saliva in a great measure depends. Now, saliva is almost as necessary for digestion, as boiling water is for making tea. Saliva is mixed with the food by mastication, and possesses peculiar qualities, one of the most striking of which is the remarkable power of inducing metamorphosis of food matter,—for example, of changing starch into sugar.

Not only in a physiological, but in a moral point of view, it may be shown that the quality of the food has an important bearing. There is the instinctive desire to stimulate the palate, which cannot



be ignored; to whatever degree asceticism may be carried by individuals, the mass will certainly obey the dictates of instinct.

In the highlands of Scotland, oatmeal—as porridge, or imperfectly baked—is with the agricultural labourer, the bulk of his food, not forgetting a fair allowance of milk; fiery whisky is the complementary element. In Ireland, potato being the representative of oatmeal, whisky is again a popular want. In both these divisions of the kingdom the rankest of dried fish and the blackest of short pipes are luxuries, perhaps more esteemed in Ireland than in Scotland. Let us compare the diet of the Asiatic Indian: rice and dhall are the equivalents of the oatmeal and potato, but rank butter (*ghee*) and spice take the place of the whisky; while the short black pipe is replaced by the high-flavoured hubble-bubble. The Indian temperature places within reach of all palate stimulants which are so fatally represented by alcohol in colder countries. Thus, in two opposite races, widely separated in every way, the same essential dietetic phenomenon is presented—that is, a large proportion of the meal is, if not absolutely tasteless, at least insipid, while a palate stimulant of the most decided character is used as a complementary element of the food.

We may even call in pathology to support our position. Ulceration of the stomach is commonly caused by the use of ardent spirits. Ulceration of the stomach is more frequent in the northern latitudes of Europe, where also the habitual use of ardent spirits is most prevalent; the staple articles of food are there of the least appetising quality.

The philosophical consideration of this question is just now one of great political importance. How to make the people sober, or how to check intemperance, is a momentous problem. Drink is shown, by unassailable statistics, to be the very constant handmaid of crime. Conceding, for the sake of argument, that drunkenness is the cause of crime, we would say, in respect of a remedy, Educate! Educate!! Educate!!!; for we would have it borne in mind that in Mahomedan countries, where the use of alcoholic fluids is, by the national religion, interdicted, crime is not unknown. And we assert that any restriction on the sale of alcoholics as a legislative enactment of the paternal stamp carries within itself a *reductio ad absurdum*, since the persons living nearest to the places for the sale of alcohol, according to the restrictive view, would become entitled to compensation by the State, on account of exposure to extra risk; for, unless towns be built or rebuilt in circles, with the public-houses in the centre of the circle, some houses must necessarily be nearer the source of temptation than

others; and thus the people who live in them would be more exposed to harm. Tens of thousands of men and women in Great Britain live in average good health without the use of alcoholic stimulants; it is, therefore, a clumsy and illogical method, we would say it emphatically, of dealing with the question, to determine, by a board of magistrates, the *necessity* or the contrary of a public-house in a particular neighbourhood.

Our proposal, then, is not only to educate in the three R's, but to make a part of education consist in the teaching the nature of food materials and the art of their preparation. Our proposition is that, by the diffusion of such directly useful knowledge, we should promote temperance more surely, than by interfering with the autonomy of the Subject, by dictating where, when, and how he may buy his liquor.

Intemperance, besides its associateship with crime, which is extremely suspicious,—though, in truth, the source of crime lies probably deeper than the bottom of the ale tankard,—is the actual cause of a great proportion of the poverty and attendant miseries that weigh down the people. Can we substitute for palate stimulants which intoxicate, palate stimulants which are harmless?—for the palate must be gratified. Such a substitution is doubtless possible, but it can be only practicable by wide diffusion of a knowledge of cookery. If we find the educated classes quite innocent of any knowledge of the effect of boiling water on a potato, for example (and we will undertake to say that not one person in a hundred can explain off-hand in what consists the cooking of a potato), how are we to expect from uneducated women a supply of cooks, or that the wife of a labouring man can set before her husband, from simple materials, a tempting dish? To make tempting dishes from simple elements is a feat, not only quite possible, but easy. “How do you mix your colours, sir?” said a rather stupid person to a great artist. “With brains, sir!” replied the artist. Just so with food. The same raw material can be so manipulated as to produce either appetite or nausea. The value of a knowledge of the rudiments of cookery may be illustrated by the following fact:—During the Russian War five or six young medical men entered the Turkish Service, and proceeded to Eupatoria; they were mostly recommended to the Turkish Government on account of their having distinguished themselves as students. On landing, they were directed to their quarters—empty rooms; were duly supplied with rations, uncooked rice and fowls, and left to shift for themselves. With these raw materials they would simply have starved, had not one of their number, who had habitually kept

his mind open to every kind of useful knowledge, general as well as special, possessed an acquaintance with cookery; and, with the aid of some charcoal as fuel, been enabled to feed his famishing colleagues, with a stew not by any means to be despised under happier circumstances. The proposition we wish to establish is, that a knowledge of the nature of food substances, and of the mode of preparing such substances, so as to minister to an instinctive want, is an indispensable step towards rendering a people sober, and thereby affording a chance for the growth of a higher moral life. Habitual toppers may be spasmodically amiable, æsthetic, and religious, but the aid afforded to human progress by such is, we fear, small. Intemperance actively impedes human progress. Sobriety, however, is not all in all, for one can easily imagine perfect temperance to co-exist with the grossest selfishness. Educate the people so that they shall almost necessarily choose a rational temperance, and thus be as fit as Providence has pleased to make them for the real work before them.

---

**SURPLUS FOOD OF THE UNITED STATES.**—The export of beef from the United States in the year 1872 approached 27 million lb. More than half this export was shipped for the United Kingdom, and above 4 million lb. went to its Colonies. The export of pork exceeded 57 million lb.; nearly 13 million lb. being destined for the United Kingdom, above 25 million lb. for its Colonies, and above 8½ million lb. for Hayti. The export of bacon and hams exceeded 246 million lb.; 175 million lb. shipped for the United Kingdom, above 24 million lb. to Belgium, 19 million lb. to Germany, above 13 million lb. to France, above 7½ million lb. to Cuba. The export of lard reached nearly 200 million lb.; nearly 79 million lb. sent to the United Kingdom, above 40 millions to Germany, nearly 18 millions to Belgium, 15 millions to France, nearly 19 millions to Cuba. The export of butter approached 8 million lb.; 3½ millions being shipped for the United Kingdom. The export of cheese exceeded 66 million lb.; more than 56 million being sent to the United Kingdom, and above 8 million to Germany. The total export in 1872 of these six articles exceeded 600 million lb., and 345 millions were shipped for the United Kingdom.

**IMPORTED TRICHINOSIS.**—Dr. G. W. Focke, according to the *Berliner Klinische Wochenschrift* reports that a series of cases of trichinosis following the use of pork imported from North America, has been recently observed in Bremen. Twelve persons were infected by a gammon of bacon bought at an auction; the younger, from ten to twelve years old, were least affected, while the adults suffered more severely. In course of time more cases of disease, traceable to the use of other hams, were observed; and at the time when the report was made, the number of persons suffering from trichinosis exceeded twenty. Living trichinæ were found in the specimens of meat examined. The process of smoking only kills the trichinæ in the more superficial parts of the meat, leaving their capsules easily recognisable; while in the interior the meat is almost raw, and the trichinæ are intact.—*The British Medical Journal.*

## THE IRISH FISHERIES.

---

THE "Report of the Inspectors of Fisheries in Ireland for 1872," throws some light on the produce of fish in Irish waters. Unlike the Inspectors of Salmon Fisheries for England, the duties of the Irish Inspectors are not confined to the supervision of the inland fisheries, but embrace also the administration of the laws relating to the deep sea and coast fisheries.

In regard to the salmon fisheries it would seem that the same complaint is made as in England, that the heavy floods which prevailed last year had the effect of preventing the capture of as many fish as were taken in 1871. In nearly all the districts the take has considerably fallen off; but "the quantity of fish in the upper waters during the summer and last spawning season has been greater than for many years past." The three Inspectors divided the country into as many divisions, each taking one under his special inspection, and they give separate and detailed accounts of each river included in their several districts: the same complaint is made of nearly every river, though in some cases the diminished capture, as regards numbers, has been compensated for by the increased size of the individual fish.

Altogether 8,146 men were engaged in salmon fishing (exclusive of rod-license holders) in Ireland during last season, paying 8,998*l.*,\* an increase of 133*l.*,\* but a decrease of 317 men, while the rod licenses fell from 2,227 to 2,104. The Inspectors complain that the sums received from license duties are not sufficient for properly protecting and watching the rivers, and providing the necessary fish passes. This is the more to be regretted, as it appears that the coastguard and constabulary who "have aided much in the preservation of the fisheries and in enforcing the laws," are now, through new regulations, unable to offer as much assistance as they formerly rendered.

It is very difficult to arrive at a correct estimate of the number of salmon captured in Irish waters: no returns are made by the Boards of Conservators, but there are numerous tables of the quantity conveyed during the year over the various lines of railway in Ireland. A return of the boxes of Irish salmon sold in Billings-

---

\* These figures include the sums paid for private or "several" fisheries. The increase in license duties amounts to only 5*l.*

gate market gives the number at 5,298, a falling off as compared with 1871; but besides London, many of the large towns of England receive considerable consignments of fish from Ireland. Out of 21 districts, 18 report that the bulk of their salmon is exported; only three retaining them for home supply. Eight English provincial towns are reported as having consumed 22,083 boxes of Irish salmon in 1872, showing an increase for those places of 13,147 boxes over 1871.

Besides salmon, a large number of eels are annually caught in Ireland; and "coarse" white fish are also abundant. One table shows that 16,285 boxes of eels consigned from the Irish fisheries were sold in nine of the principal English towns. The various returns would lead to the conclusion that the supply of white fish was about six times greater than that of salmon.

Turning to the sea fisheries, we find that the mackerel, pilchard, herring, and oyster fisheries have chiefly attracted the attention of the Inspectors.

The yield of herrings appears to have been considerably greater in 1872 than in the two preceding years, and the prices to have ranged rather lower. "The capture of herrings," the Inspectors say, "must have reached in value on the coast nearly a quarter of a million sterling." In gathering this harvest, 120 Cornish, 100 Scotch, 58 Manx, and 116 Irish boats were employed.

The mackerel fishery was not so productive as in 1871, about 6,000 tons of this fish being reported as captured; the average price was 17s. 6d. per 120. The boats employed in this fishery were Manx, 174; Irish, 85; French, 83; English, 45; Scotch, 1; a total of 388 against 316 in 1871.

The pilchard fishery has been very fitful in its results; large shoals of these fish appeared off the coasts of Kerry and Cork, but, the Inspectors add, "this fish is held in so little estimation that the fishermen usually prefer avoiding it on account of the small price to be obtained and the injury done to their nets by the quantity of oil exuded by the fish, the nets not being properly barked to resist the effects." The Inspectors are endeavouring to introduce a better mode of preserving the fish, extracting most of the oil, which can be turned to profitable account separately. This fish frequently visits the Irish coast much earlier than it is met with off Cornwall, and as the foreign demand is always most active at the commencement of the season, it seems a pity that the Irish fishermen should not take advantage of the opportunities which nature gives them of forestalling the Cornish supplies.\*

---

\* We will shortly give a description of the best modes of preserving this fish.

There are 117 licensed oyster beds in Ireland, of which "hardly a dozen can be said to be in a satisfactory position." The Inspectors say, "In the majority of the licenses we would be fully justified in withdrawing them on the ground that the conditions on which they were granted have not been fulfilled, viz., sufficient stocking and proper cultivation. In many cases there is not even a pretence of doing any thing, the licensees contenting themselves with getting whatever oysters they can off the beds for their private consumption. Some of the licenses embrace hundreds of acres of foreshore and sea bottom (in one instance nearly 1,800 acres), in the aggregate 17,935 acres, from which the public are excluded from dredging or picking oysters.

"We propose holding an enquiry at Wexford to consider the propriety of shutting up or buoying off a portion of the oyster beds from dredging, alternately, for the purpose of recovering from the exhaustion consequent on over-dredging. The beds are now almost denuded of oysters, and hardly give occupation to one boat, where over 50 formerly obtained remunerative employment. Carlingford, once so famous for its oysters, now only produces a few hundred pounds' worth a year. The beds at Arklow and on the Galway Coast are in a tolerably satisfactory position, and afford the chief sources of supply. At Tralee we have enacted stringen regulations to prevent the destruction of the beds by taking away small oysters. We have made close investigations with regard to the spatting this year, and are in a position to state that the fall has been on the whole, greater than for some years past."

The presence of oysters may be taken as an infallible sign that the spot where they are found is naturally suited for their growth, and the remark just quoted is a further proof of the fact that the coast of Ireland is in many parts well adapted for the cultivation of this bivalve. We need only to assist nature by carrying out the artificial culture of oysters, instead of thwarting her by reckless over-dredging, in order to develop these beds to their fullest extent. The same remark applies to all kinds of fishing—fish in moderation, and give every facility for the increase of production—and there need be, humanly speaking, no lack of any of the edible produce of our waters.

Oyster culture is at present only in its infancy in this country, though there seems little reason why it should not be brought to as high a state of perfection as it is in France. The Inspectors addressed a series of questions to the owners of the various oyster beds, whose answers show the variety of difficulties they have to deal with, and the little knowledge that is brought to bear in over

authority for believing that this is not the case, that although the trees have, in different places, remarkable peculiarities, these are due to local circumstances, and that in reality most of, if not all, the varieties are referable to the same species. It is especially in the fruit that the differences appear; sometimes the pod is thick, and the pericarp (what the outer world would call the hull of the pod), spongy; in other cases it is flat, thin, and papery, and this applies to the kind from which the bread in question is made, it being a variety with a flat and thin pericarp, not so thick as our French beans, but a good deal like them in appearance.

The plant which produces it is a tree which attains considerable dimensions. It is in fact the largest and, in an economical point of view, the most important tree of the province of San Juan. It supplies the carpenter with materials for the construction of ordinary household articles, such as doors, tables, shelves, etc.; and as the native coal mines have not yet been practically explored, mule loads of *algorrôbo* are daily conveyed to San Juan, and there sold as an article of fuel. The younger trees, or offshoots from parent trees that have been cut down, alone produce flowers. They commence flowering in October, and about the close of the year the ripened *legumes* are collected and stored for use. Reduced to powder, and diffused through water, they speedily undergo the vinous fermentation, and the product is a *beer*—not at all unpleasant to the palate. The finer particles obtained by sifting are moulded into the bread of which we speak. The seeds are hard, possibly uneatable, and do not form any part of the bread; it is entirely composed of the finer particles of the pericarp. It is made into cakes or lumps, without any leaven, and the result is a mass exactly like other unleavened dough, but slightly yellower. It is not baked or cooked in any way, but merely exposed to dry in the sun. The climate there is very destitute of moisture, so that this is easily effected, and the bread so prepared will keep an indefinite time; hence it is especially used by travellers taking lengthened journeys. As an example of this we may mention that the portion which we have was given to us, with the above information regarding it, by the venerable naturalist, Dr. Jameson, of Quito, who procured it on his journey to this country two years ago, when he spent a short time at San Juan, and, although then 74 years of age, explored the district and made a valuable collection of its plants and insects. He informs us that the bit of bread referred to is as fresh as the day it was made, and he finds no difference either in taste or appearance, except that it is not quite so white nor so dry as it was. It is, in fact, as soft and moist as ordinary bread, which is no

doubt due to the very considerable amount of saccharine matter existing in the legumes, and which diliquesces in our moist climate. That there is a considerable proportion of saccharine matter in it is very perceptible in tasting this bread, it being very sweet but accompanied with a peculiar flavour which probably requires an educated taste to appreciate, for we cannot say that we like it. Still the power of keeping for an apparently unlimited time is a quality which invests it with greater importance than it would otherwise possess.

Besides the timber, the beer, and the bread, the *algorrôbo* supplies a kind of gum arabic, the trunks of the old trees exuding a juice which is employed for the same purposes as that gum. It appears even more tenacious and adhesive than the former, but on the other hand it is more absorbent of moisture, some of the pieces given to us being somewhat soft. Perhaps it might make a good mixture with real gum arabic, adding to its tenacity, in which the latter is weak, for, as everybody knows, gum arabic applied to smooth surfaces is apt to peel off, while the hardness of the true gum would correct the propensity of the *algorrôbo* to soften in a moist climate.

ANDREW MURRAY.

---

THE WINE TRADE.—We are accustomed to read every year of sad failures in the champagne vintages, through frost or other causes. This season we are treated to the old story again, although it is admitted that things are not quite so bad as they appeared a short time ago, when the wholesale destruction of several crops was solemnly prophesied and announced. Thus the loss, calculated at four-fifths, in connection with the vineyards of Demery, Cumières, Hautvillers, Dizy, Champillon, Ay, and Mareuil, is now acknowledged to be only two-thirds, and this estimate would probably bear a still further reduction. It may be remembered that during the French and German war there was a violent agitation in certain quarters of the English champagne market, and the prices of favourite brands at hotels and restaurants, already excessive, were raised still higher at the prospect of the German army consuming bottles in millions of the fascinating beverage. But respectable dealers put up their tariffs very slightly, and in many instances not at all, while the hotel champagne still remains at the legendary famine figure, and, we suppose, will exhibit another upward tendency on the grounds of a deficient grape harvest. Of course, if it be correct as stated, that "at present a proportion equal to two-thirds of the champagne crop has been annihilated," the wine sold by merchants at a reasonable profit to customers will be naturally dearer, but it is difficult to see how many of the West-end restaurant keepers and holiday hotel proprietors can have the assurance to increase their already exorbitant and excessive charges. In some of these places neither a war, the *pyrale*, nor a frost in the grape districts, ought to have the least effect on the supply of a wine which is as much a product of British ingenuity as Harvey's sauce, and the stock of which could always be kept up independent of political or meteorological circumstances on the Continent, as long as the gooseberry gardens of our island continue to flourish.—*Daily News*.



## THE MISUSE OF MEAT.

---

THE writer who ventures to refer to the probability of food and the preparers thereof having a different origin, may very fairly be charged with plagiarism. The idea is old, has been expressed in a thousand different forms, and in every language in the world. The Hollander, notwithstanding that his palate may have lost a portion of its original delicacy in consequence of an over-indulgence in schnaps and bad tobacco, has been heard to mutter phrases concerning "der Teufel," the reverse of complimentary to the good Frau, who in preparing a mess of dumplings had forgotten the salt. The Spaniard who complains of his chestnuts being over-roasted, but who eats his uncooked melon with content, is "less nice than wise" in his reference to the influence that caused the stove to burn too freely and so destroy his meal. The Italian with his macaroni; the Lapp, when his train oil is not properly frozen; the Red Indian, from whose buffalo hump the gravy has been allowed to escape; the sailor who speaks disrespectfully of "man's best friend," whilst breaking his teeth over "old horse;" the Irishman, when the potatoes turn out "waxy;" and the Englishman whose beef or mutton is raw on one side and burnt to a cinder on the other,—have all a thought in common, that, taking shape in words, ascribes a beneficent source to the meat, but a less complimentary one to the cook. But whilst the general truth of the proposition appears to be established, occasions may arise on which too much credit is ascribed to the meat and too little honour rendered to the cook. Some people are hard to please, and remind one of the lad who, after complaining of his food, was asked by his master "whether he was not supplied by the cook with sufficient meat?" "Yes," he said, "there's plenty of it, such as it is!" "Do you not get good food?" he was then asked, "Oh, it's good enough, what there is of it," he replied. And so it often happens that the thankless spirit of the eater, and not the shortcoming of the cook, is to blame. Meat is misused in a variety of ways. Want of care, extravagance, and ignorance are the most common causes. Among the well-to-do, complaints of the extravagance of servants and their misuse of meat are matters of everyday comment and vexation. Beef is boiled,—not to rags.

for in that case there would be a stage in the cooking, at which, if the process could be stopped, the meat would be excellent,—but to a substance harder than leather, and as indigestible. Mutton, poultry, and game are often literally “roasted to rags,” in accordance with a certain defined system, and not from mere carelessness or inattention. In fact, this cooking, or rather the habit of leaving the meat to cook itself, for the latter appears to be the formula followed, seems to be a part of a recognised institution. When a mistress and her cook are arranging the preliminaries of the duties to be rendered on the one hand, and the remuneration to be paid on the other, a claim for “perquisites” is advanced by the servant, and, in too many cases, allowed by the mistress. These perquisites are included in what is euphoniously designated as a “grease pot.” What becomes of the contents of the “grease pot,” when they pass out of the possession of the cook, I have not been able to ascertain. Certain persons are said to purchase “kitchen stuff,” also sell prime Dutch butter made up into symmetrically shaped pats. These pats of butter are again sold by many respectable shopkeepers to many of the families whose cooks sell their perquisites. Whether there is any connection between the pats of butter and the grease pots I cannot tell; but if so, there is then a decided “misuse of meat.” Butter is good, and grease is good, but they are best kept apart, and each is valuable in proportion as it is put to its legitimate purpose.

Over-boiling and over-roasting are not the only means by which the “grease pot” is enriched at the expense of the master of the house, and, as I shall presently endeavour to show, to the cost of the sick, the sorrowful, and the poor. Grease, that is the skimming of pots in which meats have been boiled, or the dripping that results from the roasting of joints, forms by no means the only contents of the grease pot. According to the cooks, butchers are prone to indulge in a reckless and inartistic manner of cutting their joints,—so reckless, indeed, that decent carving would be impossible if the crude design of the butcher were not supplemented and improved by the delicate touch and discriminative “toning down” of the cook. Edges must be pared and corners rounded; the fat and the lean must each show its just proportions of colour and form; parts must be taken off, so that a plumpness of appearance may be given to the joint; surfaces must be levelled, skin taken away, and gristle extracted,—to the great benefit and increase of the cook’s perquisites.

The various modes of waste could be multiplied to a considerable extent, and need not be argued here. The carelessness that can

destroy anything which might, if properly applied, add to the comfort of a fellow creature needs no stigmatising. But

“ Evil is wrought for want of thought,  
As well as want of heart ; ”

and by man and master, mistress and maid, much evil may be averted by a little careful consideration and arrangement.

This “ institution ” of perquisites appears to be a cause of much misunderstanding between the rich and their servants. Ladies seldom understand, or care to ascertain, the quantity of meat requisite to supply the wants of their families. I have been asked by a thoroughly practical woman, “ How many pounds of meat per head per week shall I allow in making my purchases ? ” I must confess—though I have lived on and served out rations—I felt a difficulty in answering the question. At first, with the “ priggishness ” that characterises many small people when they are consulted on things they do not understand, I, having Australian experiences fresh upon me, answered, “ Ten pounds per week,” and got laughed at for my pains. Few ladies, if asked how much meat was required to make a hash or a stew, a curry or a pie, for half a dozen persons, could give any save the vaguest answers. Hence cooks in whose nature conscientiousness has not been largely developed, take advantage of the ignorance of the mistress, and increase the contents of the grease pot to the detriment of the comfort and means of the family.

It is of course not difficult to point out remedies for this state of things. The fat resulting from the paring and cooking of joints could always, if carefully managed, be used for puddings or pie crusts, instead of being thrown into the grease tub. Bones could, and indeed should, be boiled down for “ stock,” and the butcher’s bill would be lessened. The remains of joints, instead of being thrown into the wash bucket or grease tub, would make capital stews, hashes, or curries ; and if the mistress visited her kitchen and larder every day, now and then her scullery, checked her tradesmen’s books, and generally undertook matters for which she may have a great dislike and no aptitude, a very general and desirable reform might be anticipated in the matter of the misuse of meat.

Let me point out one remedy for the mischief. “ The poor we have always with us,” and are likely to have. Can their case be brought in to heal the difference that exists between mistress and maid with respect to the misuse of food ? I think it may, and I shall endeavour to show how. There is nothing new about my plan ; it is adopted in thousands of families, and I desire to see it

extended. If the *Food Journal* is the instrument of doing this, it will have fulfilled one of its best and noblest functions.

Taking it for granted that the cook is paid proper wages, and that the savings from actual waste would go towards doing an outside, but very distinct good, it would be easy to prevail upon the servant to aid in effecting that saving. Most servants know, either from personal or indirect experience, of the heavy want and woe that attends upon the existence of the very poor for want of food; many of them in their earlier years have experienced the want themselves, and how bitter it is nearly all of them can understand. To save for their well-to-do employers may seem to them an unnecessary work of self-denial. If, however, their savings were devoted to relieving those whose wants are patent to them, an inducement for thrift and carefulness would be offered that no merely selfish motive could furnish. Thus, if the dripping and the fat, the butter-milk and the skim-milk, the clippings and parings of joints, the broth and the pot liquors, the fag ends of loaves and the "unconsidered trifles" that fall from every rich man's table, were devoted to the feeding of the poor, the human nature that abides in every man and woman would make it a necessity of the cook's nature to aid in every way towards helping those who so much require help.

Let the mistress then who objects to allowing the perquisites of the grease pot and the pig trough, keep her servant informed of the fact that all saved from waste goes to feed those who deserve it, and the best feelings of the whole household will be enlisted on the side of saving. If to give a cup of cold water to the "least of the little ones" was accounted well-doing, then those who feed the hungry from their waste and hitherto misused meat will not be without their reward.

The poor misuse meat as well as the rich. A very little care would add greatly to the comfort of even a poorly provided household. It is not unusual for families, several members of which earn money, to make the majority of their meals off bread and butter and tea, fancying that by this means their time is saved. These viands have such an economical and poverty-stricken look about them, that any idea of the repast being the result of sheer idle extravagance never strikes them. The big fires and gigantic cooking ranges of the rich, have a good deal to answer for in the way of waste, but the poor—Heaven help them!—are in little danger of over-doing their food through excess of firing. The little, scanty fire that they keep up would, however, without additional cost, convert the meal of tea and bread into a warm,

comfortable dish. Careful cooking in many instances means slow cooking, and the poor are, unhappily, well provided for, in being able to cook slowly. A little meat judiciously added to a few potatoes and other vegetables, placed upon the hob and allowed to simmer away until wanted, would make just as cheap a meal as the bread and butter. How immensely superior it would be in every respect need not be urged. A little time ago I had to visit the London Docks, and whilst waiting, twelve o'clock struck, and the dock labourers "knocked off" for dinner. It was a bitterly cold day, and comfortably clad as I was, I felt glad to seek the shelter of the sheds. In the compartment in which I found myself, ninety-seven men were at dinner. Seventy-two of them were dining off hunks of bread, with, in some instances, a greasy substance that might have been called butter, but was only so in name. Even with the materials the meal could have been considerably improved and made more comfortable. Boiling water, salt, and pepper added to it, would have made what, in the north of England, is called "browis." Browis, however, would be poor stuff for a dock labourer to live upon, and if the covered can, that most of the men had with them, had been filled over-night with potatoes, onions, and a scrap or two of meat, allowed to simmer so long as the fire remained, and, if possible, warmed up at dinner time, the men would have been in far better heart for their work on that bitter, cold November day.

To attempt, within the compass of a single paper, to enumerate the many means of misusing meat that are practised constantly, would be to overshoot the mark, and destroy whatever effect the indications I have endeavoured to point out, might have. Every one may, with very little trouble, identify instances of misuse falling within their own experience; and if the thoughts of readers take that direction, there will be less misuse of meat, and, as a consequence, a greater number of people will be fed.

---

ADULTERATION IN FRANCE.—The Tribunal of Correctional Police, Paris, tried recently two men—Crépin, a confectioner, and Sheimer—for a new kind of adulteration. They had invented a substitute for coffee, which they called "exotic grains," and manufactured from the dregs of the real article, purchased from *cafés*, mixed up into a paste with flour and water, shaped into berries, and then roasted. The composition was sold to grocers at 1 f. 60 c. per kilogramme, and the books of the defendants showed that a ton and a half had been disposed of in the trade. They were now condemned to six months' imprisonment. Twelve grocers were at the same time condemned to a month's detention for selling coffee mixed with this compound.—*Grocery News*.

## THE METROPOLIS WATER SUPPLY.

---

THE hope induced by the "Metropolis Water Act, 1871," that the people of London would at last realise that consummation so long devoutly wished—a real constant supply at high pressure—is likely to be disappointed. The fact is that the Act is found to be practically inoperative, and this mainly because of the conditions precedent under which the constant supply is to be given. It would seem that the Legislature have been more anxious to protect and conserve the interests of the companies than to serve those of the public. An insuperable obstacle in the way of the regulations sanctioned by the Board of Trade under the Act being carried out, is the ruinous cost to owners of property which would be involved in the provision of the requisite new fittings and the adaptation of old ones to the altered circumstances. For instance, the cost of giving effect to the regulations in the case of a house in Bethnal-green of a rental value of 11*l.* per annum is estimated at 5*l.* 5*s.*; and in the case of a house situate in St. George's-square, Pimlico, rented at 130*l.*, 30*l.* Moreover, the rules are very indefinite as to the exact description of the prescribed fittings to be provided. Where a company chooses to allege that the fittings are "unsound and not efficient," the matter has to be decided by a magistrate, and although the question of soundness might be easily determined, it is not at all improbable that great squabbling will ensue in defining "inefficiency." The bill introduced by the Government early in the session of 1871, and subsequently withdrawn under pressure of "the vested interests," proposed to confer the jurisdiction of a constant supply upon the Metropolitan Board of Works, and to give them a real control over the companies; but the substituted bill which passed, simply enables that body to give notice to the companies to provide a constant supply in districts where it appears to be necessary. The companies can appeal against this to the Board of Trade, and after taking the initiative in requiring a constant supply, the authorities at Spring-gardens, who represent the ratepayers of the metropolis, have no supervision over it when it is conceded, similar to that exercised by provincial municipalities. Nor are the regulations calculated to remove the evils which obtained under a system of intermittent distribution consequent upon the

necessity of retaining water in cisterns and butts in the case of the better sort of houses, and in tubs, pitchers, and other similar vessels in the case of the dwellings of the poor. The water thus stored imbibes soot and dirt, and absorbs polluted air. To obviate this necessity, a constant supply was strongly advocated by successive committees and commissions; but the companies still retain their right to enforce storage cisterns. They have also the power to give the so-called "constant supply" through a minute orifice. If this "fitting" be employed, it will sorely try the patience of a housewife; for, at a moderate computation, fourteen minutes will be the time occupied in filling an ordinary house-pail. Under all these circumstances—and we have only stated a few of the many objections which exist to the Act and the regulations framed in conformity therewith—we are not surprised to hear that the Metropolitan Board of Works refuse to exercise the "little brief authority" meted out to them, and purpose urging the Government so to amend the law as to secure to the people a real and useful, and not a sham and ineffective, so-called "constant supply."

D. O.

---

**WORK AND WORRY.**—From this text has proceeded much profitable hygienic discourse, of late, in some foreign journals. The conclusion reached is this: brain-work is conducive to health and longevity, while brain-worry causes disease and shortens life. The truth of the statement, and its application to what we see around us, is evident enough; yet it is well that such subjects should be continually discussed. Intellectual labour, although severe, like that performed by the judges of our highest courts, or by scholars and persons devoted to literary pursuits, if unmingled with excitement, and followed with regularity, is seen to promote bodily health and long life. On the other hand, mental cares, attended with suppressed emotions, and occupations which from their nature are subject to great vicissitudes of fortune and constant anxiety, break down the lives of the strongest. Every one has seen a class of men whose early mental training was deficient, and to whom the writing of memoranda was irksome, engaged in middle life in great undertakings, and taxing the memory with a mass of complicated business accounts, simply because they could more easily remember than write. Their power of memory for a certain kind of facts is often truly astonishing, but the strain is at last too much and they die before their time. The brain-worry of our school children might furnish useful illustrations of the truth of the same general proposition, but we forbear.—*Boston Medical and Surgical Journal.*

**A NEW POTATO DISEASE.**—Prussian journals report a new kind of potato disease as having appeared last year in the crops at Apolda, near Jena. This disease attacks the tuber at once without apparently injuring the haulm. The tuber is found covered with a kind of felt, of a purplish colour, which is the mycelium of a fungus. The tuber is not always penetrated by this mycelium, but generally it is destroyed by a cancerous disease, the skin being covered by a number of black dots. The geological formation is that known as the Keuper, and in the district in question last summer was remarkably dry.

## COOKERY PAPERS.

## No. 11.—THE PIÈCE DE RÉSISTANCE.

IN every dinner which consists of many courses, there is always one which is calculated rather to assuage hunger than to regale the epicurean propensities of the guest. Still there is no earthly reason why this course should not be appetising as well as satisfying. The "*pièce de résistance*" is, as it were, the centre, solid and substantial, of the dinner system; everything that has gone before but serves as a prelude to it, and everything which follows after is merely a flourish, a sort of finale, which gives a finish to the proceedings. The soup, fish, and *entrées* are merely the introduction; the joint, remove, *relevé*, or whatever it may be called, is the *plat* off which hungry people are supposed to dine, and the game, sweets, ices, and the other continuations, are elegant and pleasing superfluities, forming an agreeable appendix. But as no book is perfect without its introduction and conclusion, so no dinner is successfully consummated without its alpha and omega, its introductory and concluding courses.

The unhappy ignorance regarding culinary matters, which so largely prevails amongst the English as a nation, has led the lower orders of society to depend entirely upon the most solid and most substantial kinds of "*pièce de résistance*," for the constitution of the meal which they term dinner. The reason of the monotonous one course which characterises the dinner of the lower classes, is, I think, due to the necessity which exists in such cases for the saving of time and trouble, otherwise it is hard to account for the austere and conservative nature of their culinary economy. Hodge, the labourer, or Jones, the artisan, must dine, as also the small tradesman or clerk. They dine, and their dinner is a rough and ready meal, without any introduction or appendix, without beginning or finish. Hodge's style of repast is, perhaps, as economical as a repast well could be, consisting generally of hard dumplings, or cold bacon and bread; but Jones, the artisan, is an extravagant feeder, he must have good fresh butcher's meat, and none of your clods or bits of beef will do for him, his steak must be a thick juicy slice from the rump. Brutes feed, but man should dine; and Jones, the small tradesman, or clerk, would dine better and every whit as economically if he were to preface his repast with another course, or substitute



some made dish of prepared food for his extravagant though simple fare.\* Jones purchases his steak at the butcher's, and takes it to the nearest public-house; it is cooked for him, and he consumes it then and there, without vegetables, and frequently without bread. He dines off steak pure and simple, and he suffers from indigestion, I have not the least doubt, in consequence. The small tradesman or clerk goes home to his piece of beef or leg of mutton or pork, and he eats about four times as much butcher's meat as he needs, and twice as much as is good for him. Sometimes, perhaps, he indulges in an appendix in the form of pudding, but not always, and as a rule meat and potatoes, or potatoes and meat, are his daily fare; the addition of an extra vegetable is looked upon as an extravagance not to be indulged in lightly. This kind of diet he will tell you is *à la* good old John Bull. Now, if the leg of mutton or joint had been stewed with plenty of vegetables, or even only vegetable trimmings, he could have had a delicious "*pièce de résistance*," and a good jorum of first-rate soup to begin with, and his two-course dinner would be much more nourishing, and considerably less expensive than the one course affair; for vegetables contain no small amount of nourishment, as also do many other things besides butcher's meat. Besides which his digestive organs would not be called upon to overtax themselves, by hastily gorging a too vast quantity of consolidated nourishment; and if Jones could have had his steak in the form of a pie or pudding, with plenty of potatoes, he would have satisfied his appetite, and gratified his palate, at one half the expense required to furnish the indigestible meal, which cannot fail in due time to have a disastrous effect upon his constitution.

It is to be hoped that ere long the working men's wives will perceive the enormous advantages, both as regards economy and health, which would result from a little more intelligent consideration of culinary matters, the effect of which would be that one pound of meat would go as far as two, and the health of man and wife would be improved. If this result could be attained, our poorer classes would be better off than they were before, and would obtain a better dinner for less expense. This course, the "*pièce de résistance*," is the substantial basis or hunger appeasing portion of a set dinner, and in its most crude and unsophisticated phase constitutes the dinner of most of the lower classes, and is the sole analogy which exists between the most *recherché* and the rudest style of dinners.

Necessity, which knows no law, compels the rich and poor alike

---

\* Australian meat might with incalculable advantage be occasionally substituted for fresh butchers' meat.

to dine; the one fares sumptuously every day, the other has only his one ewe lamb, his single course, his "*pièce de résistance*." Would, then, that I could induce the partner of his sorrows to exercise a little care and skill in the preparation of his simple meal, and by this means ensure that every poor man should have a healthy, invigorating, easily digested *plat*, instead of the solid indigestible dish, which he hastily bolts, just as a dog devours his raw food.

I do not expect, neither do I advocate, that the poorest classes should affect the made-dishes or kickshaws which are such elegant additions to the repasts of their more fortunate brethren; but the class next above them, might surely spare a little more time for, and bestow a little more trouble on, the question of dinner. An inexpensive made dish, a little cheap fish, a savoury stew, a well-seasoned pudding or pie, or a tureen of bouillon or soup, might occasionally, with advantage, vary the frightfully wearisome monotony of the dinners of this class, so that the meal might be rendered a pleasing and inviting occupation, instead of a stern duty, which consists of imperfectly champing solid masses of roast, baked, or boiled flesh, and conveying them to the stomach in such quantities, that the digestive powers fail properly to act upon them, and, therefore, one-half of the nutriment contained in the meat is lost, wasted, and utterly useless.

Why not cut up the joint into pieces, and serve part one day in one form, part another in some other way, and make the rest into a dish of a different kind? always remembering that man doth not live on meat alone. Why do we so often see cold mutton? A dinner entirely composed of cold mutton, is a very expensive one; it is an error to imagine that cold mutton is economical. But I have to consider the nature of this course, the "*pièce de résistance*," as applied to the dinners of the higher classes. Formerly, these dishes were placed upon the table after the soup and fish had been removed—hence this course has derived its name of *remove* or *relevé*. In the profuse display of vast quantities of food, which was so much in vogue a century back, the most extraordinary and fantastic, gigantic and extravagant dishes were served in this course. Boar's heads, monstrous pies, and huge barons of beef, to wit. The king's dwarf, Geoffrey Hudson, was served in a pie at a banquet, and all sorts of live birds and animals, were occasionally introduced, enclosed in a crust which, when broken, allowed them to escape.

It was considered a grand stroke of culinary genius to introduce the most abnormal and uncongenial elements in dishes, *en surprise*. At that time the table was covered with the soup, fish, and *entrées*, all simultaneously; the *relevés* appeared on the departure of the

soup and the fish, but the side dishes still remained. Now, we have introduced the more sensible plan of elegantly furnishing our table with the beauties of nature, and the embellishments of art; and each course is separately brought from the kitchen and handed round. By this means, we have something charming and pleasing to gaze upon, and get a hot dinner to eat, which could not formerly have been the case under ordinary circumstances; and, besides, we are not buffeted by waiters with monstrous hot-water dishes, and other ingenious appliances, which were necessary for keeping the comestibles hot. At the same time the phrases, "a well spread table," "a board groaning beneath the weight of the dishes," have become anomalous incongruities; but we can understand the subtle meaning which is conveyed by the terms, "an elegant entertainment," "a sumptuous banquet." This alteration in the style of serving dinners should go to the credit of our age, for the former phrases meant extravagance, if not waste, whereas, the latter convey the idea of ample liberality, but not senseless profusion.

The elaborate and richly dressed style of dinners which are now in vogue, render it necessary that this course should consist generally of something simple and plain—as a roast joint or poultry, though if the previous courses have not been rich, the "*pièce de résistance*" may well be a braized joint or braized poultry; and in the case of a large dinner, where convenience has to be studied, a roast joint, and boiled or braized chickens, will be found the most easy of execution, and productive of the most satisfactory results. But I would rather advocate the making of the other courses richer, if possible, and consider that in a dinner of many courses it is essential that this one should be as simple as possible, with a due regard to excellence. I think, for instance, as a "*pièce de résistance*" nothing can equal a roast haunch of venison, or a saddle of mutton, or a joint of lamb—though a goose or any other poultry, roast or boiled, or stewed beef or braized mutton may, with advantage, sometimes be introduced here. Amongst the party there may, perhaps, be one who does not care either for soup, fish, or *entrées*, or dressed meats of any kind, but who will feel deeply impressed with the excellence of the dinner if he can obtain a cut from a plain joint, or the wing of a roast chicken, whilst, at the same time, the *habitué* of the dinner table, or the accomplished epicure, having indulged his palate with the rich flavours of the soups and *entrées*, is also gratefully cognisant of the excellence of a ripe saddle of mutton, and would not from choice select a dish like *culotte de bœuf braisé à la jardinière*, or the *poulet sauté à la bigarrure*. If the party be a small one, and the host a wise epicure, he will have game

or poultry plainly roast, and plenty of vegetables, together with a dish of truffles, tomatoes, peas, or some other vegetable, which may be the luxury of the season, in lieu of the "*pièce de résistance*," and will substitute for the next course (the game) a dressed crab, a mayonnaise, an *omelette aux huîtres*, or *aux truffes*, or, very sensibly, he will omit the *rôtis* altogether. But, it cannot be too frequently urged upon every cook, that plenty of well-dressed fresh vegetables of various kinds are an essential accompaniment of this course. Potatoes should always be sent up dressed in two different ways, and there should be, at least, two other kinds of vegetables. This course is unlike every other, in that no dinner can possibly dispense with it, and also in that of itself alone it can, in a case of dire necessity, form the sole course of the savoury portion of a dinner, if accompanied by good vegetables. But one cannot say the same of any other course. Though one would not hesitate to ask a friend to dine off a leg of mutton with only potatoes and an apple tart, yet, one *would* hesitate before proffering an invitation to dinner if there was nothing but soup or fish, or some light *entrée*, beside the sweet, to offer him. This course is, however, capable of great variation, and may be adapted to almost any conceivable combination of circumstances. Anything substantial, either plainly cooked or richly dressed, may form the "*pièce de résistance*." Poultry and game are also available for the purpose, and many of the more bulky of the made dishes or *entrées*. Cutlets, for instance, curries, fricassees, or stews, hashes, or braizes. The taste and common sense of the mistress will direct her whether she should select a simple or an elaborate *plat* for her "*pièce de résistance*." As a guide to the untutored intellect, I may mention, perhaps, that a dinner consisting of one plainly dressed fish and one plainly dressed *entrée* may advantageously be improved by a richer kind of "*pièce de résistance*," a braized loin of mutton, a stuffed leg of lamb, or a piece of stewed beef, for instance; whereas, if the *entrées* or *entrée* and the fish are richly dressed, not plainly boiled or fried, a simple roast saddle of mutton, or some plainly cooked poultry or meat of any kind, will be found most acceptable, for it is not advisable that every *plat* in the dinner should be richly dressed—one can have too much of a good thing; and if everything else is smothered with rich sauce, the one thing, which has only its own unsophisticated merits to recommend it, will be eagerly welcomed as an agreeable variety. But when the dinner is on a large scale, it is easy to allow each person to select that style of "*pièce de résistance*" which shall best assimilate with the disposition of his palate, as the soups will be followed by fish, both dressed and plain, *entrées* will be elaborate

and rich, and also simple and good, and the removes, likewise, will present a corresponding variety.

I think that in the case of most dinner parties, especially in houses where such a thing is an event, the mistress is too ready to credit her guests with the appetite of hunters, and the voracity of ghouls, for it generally happens that this course is overdone—it is too substantial—there is too much of it; it is generally considered necessary to provide a sufficiency of this one course to dine double the number of guests, for what reason I cannot say. For instance, boiled fowls and a haunch of mutton, are frequently served for a party numbering not more than a dozen. This is just twice as much as is necessary, though, perhaps, I can hardly call it waste, for the family lives on the remnants probably for the next three or four days. It is not so with the soups, fish, and *entrées*: these are generally so managed that enough, and enough only, shall be sent to table; and is not enough as good as a feast? This lavishness tends, of course, to augment the apparent expense of a dinner party, as it is set down to the general account, without regard being taken of the unnecessary quantity provided, which saves the house-keeping book from any expenditure for butcher's meat for the next few days. People who but rarely give dinner parties, appear to imagine that it is necessary to provide this course in as large a quantity as if no soup, fish, or *entrée* were to precede it. A man with a good appetite will dispose of three mutton chops, if chops alone constitute his dinner, but if you give him soup and fish, or soup and an *entrée* one, or at most two, chops will amply satisfy the most exacting appetite. *Quantum suff.* In conclusion, I would suggest, that the "*pièce de résistance*" should always be selected as convenience may direct. A plain roast joint is good enough for a prince, or a couple of roast chickens, with watercresses, are fit for a king; and if the party be a large one, the joint may be supplemented with boiled or braized poultry or game, or a substantial *entrée* may be served as a supplementary remove, *relevé*, or whatever name this course may be known by; no better term for it, however, I think exists, than the one we have borrowed from our neighbours, the French, from whom, by-the-bye, we have borrowed almost every good idea relating to cooking, for it should always literally be the *pièce de résistance*. Two roasts should never be served together, for variety has charms which are marvellously fascinating to the palate. With regard to this course I would suggest that simplicity should be the *mot d'ordre*, with the motto *au naturel*.

A Cook.

## MARKETS OF THE MONTH.

---

DURING the month yet another meat preserving company has sent out its prospectus, but alas! fresh meat is no cheaper, although the state of the dead meat trade in the metropolitan market may be noted as dull; lamb maintains a high price, and will probably not be much cheaper this season. Prices are: beef, from 3s. 8d. to 6s. 2d.; mutton, 4s. to 6s. 4d.; pork, 4s. to 5s. 8d.; veal, 5s. to 5s. 10d.; lamb, 6s. 8d. to 7s. 4d. per 8 lbs. by the carcase.

The sugar market is depressed, and sales when effected are at lower prices than last month. When the preserving season has set in we may look for a little more activity, perhaps, in consequence of increased consumption, but in many instances persons have been tempted by the low price to lay in their stock for this purpose already. The coffee market is quiet, and buyers are wary, expecting a decline of 3s. or 4s. per cwt. Rice is not much asked for, but prices are unchanged. In the tea market lower prices have been accepted, both for black and green.

The corn market is dull, there is not much doing, but good samples are given at former prices. The hay and straw market is plentifully supplied; the trade is steady at former rates. Most of the hay and clover crops are down, and heavy yields are the rule all over the country. A fortnight or three weeks of bright dry weather, to make hay while the sun shines, is now to be desired. Many of my readers may have seen an interesting little model of a machine for drying hay, &c., in the International Exhibition, but the gleaming sunshine of nature is the best and cheapest hay maker, although in case of continuous wet weather the farmer may find the expense of working the hay-drying machine ultimately remunerative.

Fresh butters are cheap and good, price from 1s. 1d. to 1s. 5d. per lb.; fresh eggs 8s. to 10s. per 120.

Old potatoes are almost worthless; and we are gradually becoming independent of foreign countries, and even Cornwall, for our supply of new, for in favourable situations the early crops are fit for use. At present we have not heard of any anticipations concerning the potato harvest generally, it is too soon to

prognosticate; the disease may work havoc irretrievable in the course of the next month or two.

Strawberries are now ripening all over the country, and heavy crops are the rule. Cherries, too, will be more plentiful than they were last year.

Peas are becoming cheap, every day at this season makes a vast difference in price. The following are the prices of some of the luxuries of Covent Garden. Hot-house grapes, black, 7s. to 10s. per lb., white, 11s. to 12s.; pines, 16s. to 18s. per lb.; peaches, 18s. to 26s. per dozen; nectarines, 18s. to 26s. per dozen; cherries (no English at present), French, in small boxes, from 1s. to 2s. per lb., baskets, 6s. to 7s. each; French apricots, in boxes, from 1s. 9d. to 3s. per box; French tomatoes, 2s. 6d. to 3s. 6d. per box; asparagus, 3s. to 5s. per bundle; cucumbers, from 6d. to 1s. each; Dutch, 2s. 6d. to 3s. per dozen; Valencia oranges, from 100s. to 120s. per 1,000, Lisbon, 32s. per case; Messina lemons, from 90s. to 120s. per 1,000; New Brazil nuts, 24s. per bushel.

The fish market does not present anything worthy of notice excepting the extraordinary price which salmon has maintained; now it is from 1s. 6d. to 1s. 9d. per lb.; at this season it is generally 4d. to 6d. per lb. lower. I am told that unusually large catches were obtained in the early part of the season, and that the price then was unusually low, and that as you cannot eat your salmon and have it too, anymore than your cake, therefore it is dearer than usual at this time of the year.

Poultry is slightly cheaper, but dealers do not hold out hope of returning to old fashioned prices, the consumption they say has so vastly increased, as has also the expense of production. There has been a scarcity of ducks, which have been dear, from 3s. 6d. to 5s. each; chickens are coming in more freely, price from 2s. 6d. to 4s. 6d.; goslings, from 6s. to 9s.; quails, from 1s. to 1s. 6d.; pigeons, 10d. to 1s.; leverets, from 3s. 6d. to 5s. 6d.

Notwithstanding the decreased consumption of coals prices are but little easier.

*June 21st, 1873.*

P. L. H.

---

**SANITARY AND EDUCATIONAL EXHIBITION AT NORWICH.**—On the basis of the Exhibition of Sanitary Appliances, held in connection with the Social Science Congress at Leeds, in 1871, it is proposed to hold a similar one combined with the Educational at Norwich, during the meeting of the Congress in that city in October next. The use of the large and spacious drill-hall has been obtained for the purpose. The object of the Exhibition is to bring under the notice of the public generally, and particularly those who are interested in Social Sanitary and Educational questions, the latest scientific appliances for improving the public health and promoting education.

NOTES OF THE MONTH.

---

THE cultivation and production of sugar in Egypt appear to be increasing at a very rapid rate, judging from the fact that the refiners in the neighbourhood of Genoa calculate on Egypt alone for their future supply, instead of the Mauritius, from whence they at present draw their raw sugar. The Egyptian sugar is said to be of good quality, and the nearer proximity to Genoa of Egypt than the Mauritius will effect a great saving in freight. Sugar refineries are likewise extending at Genoa, and three new ones are being erected at Sampierdarena, which will be in working order by the end of the present year. "These," it is said, "will be fitted with every modern improvement, and will begin by producing from twenty to thirty tons a day each; both establishments are backed with ample capital, and are prepared to carry their production to 100 tons per diem, or more, if on actual experiment the refiners are successful."

---

Of the genus *Helianthus*, belonging to the composite order of plants, two species are well known to us—*H. tuberosus*, the Jerusalem artichoke, and *H. annuus*, the sunflower. The first is a well known hardy perennial, said to be a native of Brazil, and to have been introduced into Europe in 1617. In 1629, according to one of our old herbalists, the tuberous root of this plant was so common in London "that even the vulgar began to despise them; they were baked in pies with marrow, dates, ginger, sack, etc., and being so plentiful and cheap, rather bred a loathing than a liking for them." At the present time they are used with us chiefly when simply boiled, like a potato, or mashed with butter; they are also occasionally baked in pies, and are both wholesome and nutritious, more so, it is said, even than the potato itself; they are, however, much more extensively used on the Continent than with us, not only as a substitute for the potato or when cooked in a similar manner, but also in soups. With regard to the sunflower, it can scarcely be called an economic plant; we know it only as a garden flower, but in some parts it is cultivated for the sake of the oil, which is contained in large quantities in



the seeds, and which is said to be not only as good as the best olive oil for table use, but for burning in lamps equal to the best sperm, as it does not smoke. Painters also describe it as being much superior to linseed oil, as it dries more rapidly. It is said, with proper cultivation on a suitable soil, the plant will yield on an average from 80 to 100 bushels of seed to the acre, and from 5 to 7 quarts of oil can be extracted from one bushel. The seeds themselves, after being deprived of their husks, have been spoken of as a palatable and nutritious article of food, and so has the succulent receptacle itself—the fleshy part in which the seeds are buried. It should be cooked and eaten in the same way as the common artichoke (*Cynara scolymus*). As fodder for cows the green leaves are said to be very valuable, especially in seasons of scarcity and drought. The following extract from a paper on their use as fodder will show how they are esteemed :—

“We generally commence plucking them in July, taking the lower leaves first, and feeding them out at night, or if the scarcity of feed is great, in the morning before turning them from their yards. We have sometimes given them corn toppings and the leaves of the sunflower at the same time, and have found that the latter are invariably preferred. The seed is a most desirable food for poultry, its highly oleaginous nature wholly superseding the necessity of animal food.”

---

It is well known to all travellers in the East, that apricots are grown in immense quantities, and are a very important article of food, being used not only in their fresh state, but after being dried either in a whole form and containing the stone, or rolled into the form of a thin cake. Touching this, our consul at Damascus writes :—

“The Damascenes are imbued with great faith in the force of the hereditary power in all that concerns their vegetable and animal products, and they therefore watch and superintend with the greatest care matters connected with reproduction, which in other Mahommedan countries are left to chance. From this cause the fruits and vegetables of Damascus are remarkably fine, and the gardens are stocked with numerous superior varieties. The apricots, the principal sustenance of the inhabitants during two months of the year, are sought for in a dried state all over the East, and since my arrival here I have been endeavouring to induce the natives to prepare them for the European market in the manner employed in Portugal.”

---

SOME important questions have recently been discussed in connection with the interpretation of the Act of last year for the prevention of adulteration. A butterman at Liverpool was summoned for selling as butter a mixture containing lard, dripping, tallow, palm-oil, etc. The magistrate was of opinion that the defendant

could not be brought within the section unless he represented that the butter was unadulterated, or unless it was shown that he knew the butter was adulterated, and accordingly dismissed the summons. Upon appeal to the Queen's Bench, it was unanimously held that proof of guilty knowledge on the part of the seller was not necessary in order to constitute the offence provided for by the third section, and the case was accordingly remitted to the magistrate. One of the judges remarked that the magistrate was wrong in holding that an express representation was necessary, while another thought the construction which the magistrate proposed to put upon the Act would considerably curtail the provisions of "an important and valuable enactment." It was also pointed out that a tradesman wishing to sell mixed or adulterated articles might safely do so, if declaring the articles sold to be mixed or adulterated. The case has been again before the Liverpool court, and stands adjourned for three weeks for further analysis to be made, the defendant positively denying that the butter was adulterated.

---

ONE of the milkmen recently convicted at the Richmond Petty Sessions complains that he should have been fined "because of the simple abstraction of a small portion of cream," inasmuch as the Act does not provide for such abstraction, but only deals with fraudulent increase, or mixing with other substance. He also complains that he has no security that the milk sold by him was the same as that produced by the analyst. It appears—at least, so says the complaining dairyman—that one of the stipendiary London magistrates refused to convict under circumstances somewhat similar, on the ground that the abstraction of cream from milk was not provided for by the Act. An authoritative decision upon this latter point is highly desirable, and all will agree that every reasonable precaution should be taken to prevent the possibility of any tampering with the samples purchased for analysis.

---

THE reading of the Adulteration Act with respect to tea is about to be brought before the Court of Queen's Bench. Messrs. Roberts & Roberts were summoned before the Birkenhead magistrates for selling tea which Dr. J. C. Brown, the Liverpool analyst, declared to be "faced" or "painted" with Prussian blue and gypsum to the extent of  $1\frac{1}{2}$  to 2 per cent. Messrs. Roberts were fined five

shillings, with costs, but the magistrates granted a case for submission to the Queen's Bench as to the meaning of the terms "adulterated" and "selling as adulterated" used in the Act; and it was arranged that a number of pending cases should stand over till the decision of the court shall have been given. In the mean time tea drinkers may ponder over the evidence respecting green tea. Dr. Brown said that Prussian blue and gypsum were not absolutely poisonous, but they were injurious to health. Infusions of adulterated and of pure green tea were made by the magistrates, the latter produced a clear brown liquid, while the former was covered with a "thick green scum." Mr. Davies, analytical chemist, declared that the green tea generally sold was "faced." Tea drinkers may easily test the fact by the presence or absence of the green scum. Mr. Matheson, tea broker, said that the only uncoloured green tea known was imported from Japan, but it was not known in the market as green tea. Those who have no objection to  $1\frac{1}{2}$  or 2 per cent. of Prussian blue, clay and gypsum, may continue to drink green tea.

---

DR. HASSALL writes to the *Times*, suggesting various amendments to the Adulteration of Food Act of last year:—

"First, I suggest the Act should contain certain clauses defining what is embraced under the term 'adulteration.' Thus, all articles should be deemed to be adulterated the composition of which is not expressed by the name under which they are sold. Butter should not be a mixture, as it often is, of various animal fats, nor coffee a mixture of chicory and coffee; and every article to which any foreign matter or substance has been added for the purpose of gain or deception should be deemed to be adulterated. Again, articles from which any of the important constituents have been abstracted, as cream from milk, or the active principles of tea from tea leaves, &c., should be regarded as adulterated. Further, it would seem advisable that the Act should deal with articles of food rendered unfit for human consumption by reason of deterioration of quality arising from disease or decay. This division would embrace diseased or unsound meat, fish, fruit, and vegetables."

After calling attention to the difficulties attending the detection of adulteration of such articles as tea, pickles, etc., and proposing that samples be obtained from the bonded warehouses, Dr. Hassall concludes by pointing out the necessity of some better means being afforded for the purchasing of articles intended for analysis, as also of an alteration in Section 3 of the Act:—

"Lastly, a change is urgently required in the machinery for obtaining samples for analysis; this duty is now remitted to certain public officers and inspectors, who are of course as well known as the parish church or pump. Now, when these inspectors enter a shop, the purpose of their visit is at once surmised, and

if there be genuine articles therein they are sure to obtain them, and not the adulterated samples of which they were in search. It is difficult to imagine any machinery more calculated than this to defeat the object in view.

"The best and safest plan to pursue, in the collection of samples, is that so successfully adopted by the *Lancet*. Two trustworthy, but not generally known, persons should make the purchases, one acting as the witness of the other's proceedings. These persons should immediately on making any purchases, and before entering another shop, place upon each sample the name of the shop-keeper, the price of the article, the date of purchase, and their own names or initials. In this way mistake as to the identity of any article is rendered impossible.

"An alteration is likewise required in the phraseology of certain clauses of the Act, and especially in Section 3, which imply the necessity of a guilty knowledge on the part of the seller."

---

A VERY good idea of the expense of living in Egypt may be had from Consul West's report on the trade and commerce of the port of Suez. He says:—

"For legs and shoulders of mutton, grazed on the desert (where there are always here and there, in the water courses, small patches and tufts of stunted roots and plants), large boned and lank, but of fair flavour, I pay at the rate of 1s. per lb., against 7½d. in Cairo; for fowls, of which a person with a good appetite could eat two at a sitting, 1s. each; for turkeys, good, 10s. to 15s. each; geese may be bought for 3s. Of vegetables, I may quote French beans 10d. per lb. against 6d. in Cairo; cauliflowers are as high as 1s. each; potatoes from Marseilles and Malta, by the canal, 4d. per lb., about the same price as in Cairo.

"The Red Sea abounds in fish, many remarkable for size, teeth, and voracity; some interesting to the naturalist only; others a good acquisition to the table. Fifteen-foot sharks have been caught in the harbour, also skate eight feet in width, weighing 180lbs. Of the edible varieties of fish, the price of the better sort is about 1s. per lb. Among the best is the rock cod, resembling in taste, and surpassing in delicacy, but not in firmness its namesake of the Atlantic; a flat fish called the moorgan, and grey mullets are also of good quality. Prawns much exceeding in size the English variety being from 1s. 3d. to 1s. 8d. a pound, and crabs about the size of a lady's hand, long legged, with light blue tinted shells, are to be had for a shilling a dozen. A fish called by the French the borade, a sort of bream, brought by railway from the Lake Timsall, where it is plentiful, is also obtainable at 1s. a pound; turtle soup might also be occasionally tasted at Suez, if there were culinary "artistes" there to cook it. Soles are rarely seen.

"At Suez also may be occasionally obtained gazelle, hare, quail, desert grouse, and royal curlew, as also, but very rarely, the ibex, or mountain goat; and teal, wild duck, and even snipe, brought in from Cairo during the season, are all occasionally obtainable at prices greatly raised since the introduction of European cookery."

## DOMESTIC RECIPES.

---

*The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.*

---

### STEWED MACKEREL.

Take some potatoes and peel them ; put a little water in the bottom of a saucepan ; put in the potatoes whole ; take some mackerel, four or five for a small family, clean them, and cut each in three pieces, also cut off part of the head ; put them in the saucepan on the top of the potatoes, with a little parsley, pepper and salt. It will require about half-an-hour to cook.

---

### MACKEREL PIE.

Make some paste the same as for an ordinary meat pie ; take enough mackerel to fill the dish ; cut them in pieces, and put in the dish with a little parsley, pepper, salt, and a little butter ; then cover over the dish with paste, and bake it about three quarters of an hour.

---

### EGG PASTY.

Make some paste ; roll it out ; cut some beef in slices and put in the paste with pepper and salt ; fold it over and twist round the edges ; bake it about half an hour ; when it is cooked, break two eggs, cut a hole in the top of the pasty, pour the eggs in ; let it stand for five minutes, when it is ready to be eaten.

---

### RASPBERRY VINEGAR.

Fill a jar with raspberries ; pour vinegar over them until the jar is full. Let it stand nine days, stirring it every day. Strain it off, and to every pint of juice add  $\frac{1}{2}$  lb. of white sugar. Boil it as long as any scum rises, and bottle off for use.

---

### GERMAN GRUTZE.

Boil two pounds of fruit in a quart of water, and when tender pass it through a sieve. Then boil and sweeten it with white sugar. Add  $\frac{1}{2}$  lb. of sago, well soaked in cold water, stirring the whole over the fire, until the sago is dissolved. Pour it into a mould. When cold turn it out, and serve with cream or custard.

---

*\*\* Every communication intended for insertion in the "Food Journal," should bear the name and address of the contributor, not necessarily for publication, but as a guarantee of good faith.*

## THE FOOD JOURNAL.

---

### FOOD AND COOKERY AT THE INTERNATIONAL EXHIBITION.

---

ONE of the most remarkable features of the present exhibition is assuredly the collection of gas cooking stoves, apparatus and appliances; one side of the large room in the southern wing, near the refreshment rooms, is almost occupied by the means of cooking by machinery, which, in some instances, may be seen in operation.

Cooking by gas is not new, but the apparatus in use until lately may be not unfairly described as illustrating to a great extent a method of putting the heat of gas to the least possible purpose. Nothing can be more attractive than the operation of cooking by gas; ready at a moment's notice without any trouble on the part of the cook, it presents peculiar advantages for small operations, its employment is comparatively cleanly, and especially convenient, as it may be used on an ordinary kitchen table, and, lastly, the moment the gas has done its work it may be turned off, and not an atom of heat-giving fuel left to burn to waste. For small operations then, and with care, gas is convenient and not costly.

When we turn our attention, however, to cooking on a large, or even a moderate, scale, it must be admitted that the original apparatus was both extravagant and insufficient; to place a pot to boil, or chops to broil over an unprotected ring of gas, with the heat radiating in every direction, is as wasteful an operation as cooking by a great old fashioned open range, with this fact in addition, that gas is a dearer product than coal, and still more so than coke.

The recommendations in favour of the use of gas, mentioned above, have stimulated stove grate makers and others to meet the popular demand for gas cooking apparatus, and the collection with

which we have to deal shows that inventors and makers have succeeded in producing stoves, at small cost, which have all the advantages of convenience, cleanliness, and effectiveness, and, in the best instances, positive economy.

London supplies the majority of the exhibitors, whose names we give in the order in which they appear in the Catalogue :—Messrs. S. Leoni & Co., Great George Street, Westminster (4705); Billings & Co., Hatton Garden (4714); J. Wright, Broad Street, Islington, Birmingham (4735); E. Davis & Son, York Street, Westminster (4745); C. Hall, Radstock Street, Battersea (4746); F. Mitchel, Oxford Street (4747); A. G. Southby, New Inn, Strand (4748); Scott and Butler, Constitution Hill, Birmingham (4749); Verity Brothers, Bishops Road, Paddington (4750).

The most glaring fault of the old apparatus, which has been remedied, was unpleasant smell from the gas, and deposit of soot on the saucepans, etc. This is avoided in the new stoves by the employment of what is generally called the atmospheric burner, invented by the eminent natural philosopher Bunsen and called in science after him the "Bunsen burner." It consists in surrounding part of the gas pipe, and the burner, with a chamber pierced with holes, which allows a given quantity of air to mix with the gas before ignition; this burner gives small blue jets, with scarcely any light, great heat and no soot, and, moreover, it saves about 40 per cent. of gas. The burner should in all cases be *outside* of the apparatus.

The next improvement to be noted is the surrounding of the gas ring, or burner, with a protection, first against draughts of air, which, of course, carry away heat by diverting the flame, and, secondly, against loss of heat by direct radiation. The former purpose is answered by setting the ring of gas within a protecting frame of cast iron, which supports the pans, kettle, etc., and which also, till it becomes hot, prevents radiation, but this only applies to what may be called hand or table apparatus. To form a gas stove proper the arrangements must be such as prevent, as far as possible, all radiation outwards. One of the means first adopted was to set a gridiron within a case of plate iron with only the front open, but this only partially effected the intended object; a shield of the same form made of tiles was a step in advance, the white surface of the tiles reflecting the heat well on the meat, but still allowing great outward radiation or loss of heat; to form the sides of the case or shield, of whatever form, of double iron with a space for air between was a considerable step towards the required object; which is finally attained by using a thick lining

of fire clay with a space for air between it and the outer iron casing ; by this means outer radiation is almost entirely prevented.

With such arrangements meat and other things are baked at a very moderate cost and in a short time ; with due ventilation and an increase of heat, joints, poultry, etc., can be roasted in such a manner that the most delicate palate cannot perceive the difference between meat roasted in such an apparatus and before an open fire. No jack is required, the joints, etc., are simply hung up within the apparatus and the heat is reflected upon them equally all round. In this way roasting and baking are now carried on in hundreds of private houses, and on a larger scale in club-houses, hospitals, and large public and private establishments of many kinds. Such an apparatus is employed at the London Hospital in Whitechapel Road, which roasts 300 lbs. of meat, poultry, etc., in two hours. The joints, etc., are suspended within an iron frame which is attached to a small crane, the cover of the machine, lined like the sides, with fire clay, is shut down close, and the operation is performed in the given time without any attention whatever being required.

Fire clay is also very ingeniously applied to small gas apparatus in another way. A fire proof composition is formed into reflectors, diffusers, etc., which add greatly to the capabilities of even the smallest gas stoves ; the reflectors are circular vessels from six to ten inches in diameter, two to three inches deep within, and about an inch thick, and they are supplied in pairs ; two of these, the upper one being placed bottom upwards, form an oven which, placed over a ring of gas, will cook potatoes and many other things admirably, while the bottom of the lower reflector fulfils the duty which its name implies, and will cook rapidly by reflected heat a chop, bacon, kidneys, eggs, or other small viands placed beneath the ring of gas ; at the same time a kettle of water may be kept hot, and anything requiring a gentle heat may be cooked on the top of the fire clay reflectors, or oven ; thus with a single ring of gas broiling, baking, and simmering are carried on effectively at the same time. With a large gas ring, and an iron hood, say ten inches or more deep, lined with the fire clay composition, you have an excellent roaster for poultry, game, or moderate sized joints ; and, with less heat, it makes a capital oven for tarts, etc., or even bread, while the top of the hood will form a hot plate, or a *bain-marie*, or keep kettle or saucepan on the simmer. The diffuser is a mere circular slab of fire clay which, as its name imports, diffuses the heat equally ; placed beneath pastry in an oven it prevents scorching, and for operations which require a moderate but steady



heat, such as preparing preserves, one of these diffusers placed between the ring of gas jets and the bottom of a stew pan, after the contents have been brought to, or near, the boiling point, will be found valuable for all slow operations in cookery, the heat at the same time being well husbanded, so that the gas may be turned low.

In reference to broiling or roasting by reflected heat it must be remembered that while the plan of cooking a chop beneath the gas jets, as above described, is a positive economy, because the heat is sufficient and would otherwise be lost, all attempts to roast on a large scale by means of reflected heat alone can only lead to disappointment; the value of reflected heat in such cases is infinitely below that of direct heat, as a single experiment will prove.

In many cases the quantity of gas consumed is so small that the economy of the apparatus becomes a secondary consideration; thus we have seen in the exhibition, and elsewhere, a gas roasting apparatus which consisted simply of an iron oblong dish sunk in a table, with gas jets placed at one end, in a small recess, and an iron hood which is placed over the whole; with proper provision for ventilation such an apparatus cooks admirably, though it is wanting in all the means of preventing outer radiation.

In connection with gas apparatus we think it right to call the attention of our readers to the excellent French fire porcelain pans, which are largely used on the Continent, and are now introduced here for eggs, bacon, etc.; they are clean and even elegant, and do not disgrace a breakfast table like a tin dish, while what they contain is served actually hissing hot.

---

A PRELIMINARY meeting with a view to the establishment of a National Training School for Cookery was held on July 17, in the new saloon, at Grosvenor House. The Marquis of Westminster presided, and Mr. H. Cole, C.B., explained the working of the Popular School of Cookery at the International Exhibition. An influential committee of ladies and gentlemen was formed.

**DIGESTION.**—Working men, to keep up their strength, require a liberal diet of animal food, and vegetables as they come in season; but it must be borne in mind that it is not by the quality or quantity of the food taken into the stomach, but by what is digested, that the body is nourished. The digestibility of the aliment is therefore of much importance. Dry and hard food, such as hung and salted meats, hard boiled eggs, are digested with difficulty. Soups and other liquid aliments are also not easily acted on. A medium state of density and coherence is favourable to the digestion of food. Quantity also operates: unless a certain bulk be introduced, the action of the stomach is not fully brought into play. To a considerable extent this depends on habit. But the most judicious selection and careful preparation of food are unavailing if the stomach is not prepared to perform its duty.—*Homoeopathic World.*

## VEGETABLES BETTER THAN NOTHING.

---

WITHOUT advocating the views of absolute vegetarians, it is certain that much more sustenance might be derived from vegetables than is now obtained, by those who cannot afford a proper quantity of meat; and this remark applies more especially to England. The cause is simply ignorance, prejudice, lack of imagination and ingenuity among the poorer housewives; while the more wealthy and educated have not the stimulant of need to enforce their investigation of the matter. Abroad, a thousand and one contrivances have replaced in poor families the use of meat; in England, the poor, of our cities especially, console themselves for the absence of animal food by drinking, for the most part, poisonous spirits. To remedy these evils, good teachers and willing pupils are wanted; but in England the poor decidedly object to learn, and no one has had the courage to attempt to teach them. Burke's immortal maxim about the Englishman's castle has done in this wise some harm. Let us imagine a bold philanthropist, who would enter an Englishman's home and teach his wife how to select and cook vegetables, after scientific rules, for the general advantage and economy of the family. What a desecration of the freeman's dignity—what unwarrantable interference in domestic affairs; in a word, an Englishman's house would be no longer his castle. If, however, it is impossible to give lessons personally, the press might have achieved the work, or at least assisted in it. But this is not so, and it is to the discredit of that great power; nay, more, it proves that the press is not altogether free from the empire of selfishness. The poorest have been made to sympathise with the political interests of their newspapers, to the advantage of party or individuals; but nothing has been done to teach them how to mind their own particular domestic affairs. Far be it from me to deny the political advantages enjoyed by the poorest classes of England—advantages which have been fought for and won by the cheap press. But is it not of equal importance to keep the poor from partial starvation, and the "drink of despair," by teaching them how they can derive, I may boldly say, double the advantage from their expenditure? This has hardly ever been attempted, and for this purpose it would be well to investigate how far vegetable matter

can be used as a cheap substitute for meat, thus proving itself better than nothing.

Undoubtedly great sustenance can be derived from vegetables. Vegetarians can give us many examples to prove that not only will vegetable matter alone sustain life, but that meat is injurious. Without going so far, I limit myself to one or two instances, proving that we are not absolutely dependent on meat, and that in its absence or with a very small quantity of it, good health and strength can be secured. Volney, a well known, though not a recent authority, describes the Wallachians in his travels as "tall, well-built, robust, and of a very wholesome complexion, diseases being rare among them." Further on we are told, "the manners of the Wallachians, as far as I have been able to judge them, are simple, and neither embellished nor sullied by art. Temperate in their repasts, they prefer vegetables to fruit, and fruits to the most delicate meat." The miners in Belgium furnish another good example. They consume, according to a report made in the locality, 2lbs. of bread per day, about 2 ozs. of butter, 1 oz. of coffee and chicory mixed, while for dinner they have in the evening a portion of vegetables mixed with potatoes, weighing at the most  $1\frac{1}{2}$  lbs. They have meat on Sundays and festivals, but during the week they drink neither beer nor other fermented liquors. Coffee is their only beverage. Yet these workmen are hardy and healthy. It is not the coffee which sustains them, for it constitutes but 1-35th of the nutritious properties of their aliment, though M. de Gasparin, in a paper read some years ago before the French Academy of Sciences, attempted to prove, from certain tables, that the waste in liquid excretion is less where coffee is drunk than at other times. The miner's coffee is not like the French *café au lait*, for it has but 1-10th part of milk in it; he drinks several pints in the day, and eats only bread and butter until the vegetable meal of the evening. The albuminous substance which enters into the rations of the Belgian miner is thus reduced from 23 grammes to 15 grammes of azote. This is less nutritious even than the diet of the monks of La Trappe at Aiguebelle. Here is, therefore, proof that life and health can exist throughout a whole population with less nutritive substance than is generally considered necessary; that meat can well be replaced by vegetable and farinaceous matter. But it will be argued, that the impoverished British workman and pauper will object to the diet of the Belgian miner. In answer, however, might it not be suggested that the Belgian acts with greater wisdom when he preserves his health and spirits even on such a miserable diet, than the Englishman who, constantly aiming at nothing less than the sirloin, falls

short of the goal, and consoles himself with spirituous liquors. There is fortunately a medium course, and much despair might be avoided if our poor, and indeed some of the lower middle classes, knew better how to combine vegetable substances, and produce excellent meals, without any assistance at all from the butcher. Occasionally a good wholesome vegetable diet would be better than nothing; and, by refreshing the blood and assuaging thirst, would lessen the temptation of drink, always so great in moments of feverish anxiety, poverty and want. Without adopting the miner's diet, many a good meal can be made for a few pence from vegetables, cooked with more art than at present shown. It would take too long to analyse all the different vegetables at hand; but I will, on a future occasion, return to the subject, and for the present content myself with a few practical examples illustrative of my meaning.

For a cheap, yet tasty and substantial dish, let me suggest that the housewife grate two carrots, two turnips, one parsnip, a little beet-root and artichoke into one pint of split peas, boiled in two quarts of soft water for two hours. The whole might then be boiled with three teaspoonfuls of Indian, wheaten, or Scotch meal, mixed in cold water, leaving it to simmer together for two hours more; a little parsley, mint, and thyme will flavour the dish. More water might be added if necessary. This somewhat complicated "hodge-podge" would well satisfy a middle-class family, and cost less, at any rate, than a joint. It would not do, perhaps, every day, but might occasionally save the meat and avoid the horror of stinting at dinner. For a cheaper dish, why should not the lentil be introduced for everyday use in England as in France? For instance, let a pint of lentils be soaked in pure soft water for twenty-four hours, then put in a stewpan (earthen or enamelled is best), and boiled for four hours, when two onions, one parsnip, one carrot, a little parsley, thyme cut small, and a small quantity of boiled rice should be added. This, mixed and boiled a short time together, would produce a satisfying and savoury dish, somewhat better than the diet of the Belgian miner, and yet very cheap. Lentils are about the most nutritious vegetable we possess. In 100 lbs. they contain 16 lbs. of water, and 84 lbs. of solid matter, of which 33 lbs. are of flesh-forming and 48 of heat-forming principle; while butchers' meat, according to Baron Liebig's table, has but 21.5 lbs. per cent, of flesh-forming principle, and 14.3 that gives heat. The rice has 82 per cent. of the heat-forming principle. Compared with these, the other vegetables are more useful as giving water, flavour, and rendering the dish light and digestible. The celebrated Indian and Chinese dish called *Dahl*, has also lentils for its chief ingredient, and is

purely of vegetable matter. It is substantial and delicious, and is made as follows:—Stew a quart of split lentils till they form a thick soup; have ready a pound of rice, well boiled in milk, and drained off as dry as possible. Shake the rice up loosely in a dish, and, after mixing an ounce of curry powder with the lentils, pour the lentil soup over the rice and serve it up. Dishes, cheaper even than these, may be made palatable.

Before concluding, however, there is one important objection which has often been made, through ignorance of the first rule in cooking vegetables. It is observed that a meal from them is not satisfying. I have found it frequently happen that the persons who thus objected, did not know even how to boil a vegetable. The rule is simple, but must never be forgotten. Every kind of vegetable intended to be served whole should, when put to boil, be placed at once in boiling water; and this applies especially to potatoes, and vegetables from which the outer cover has been removed. Now it often happens that potatoes, etc., are, to save time, placed in cold water and left to boil gradually. It is just this which allows the nutritious matter to escape, and renders the meal unsatisfying. When, on the contrary, the water boils from the moment the vegetable is immersed in it, the albumen is partly coagulated near the surface, and serves to retain the virtue of the vegetable. The reverse is, of course, the rule for making soup, or any dish from which the water will not be drained. By placing the vegetables in cold water the albumen is slowly dissolved, and actually mixes with the water—a process most necessary for the production of nutritious soup. It is to be hoped that the poor, who have a special need for the most their money can produce, will learn, in whatever haste they may be, not to boil all the albumen from their potatoes, reserving for their meal only the starchy matter.

A. D. S.

---

COLONIAL PRODUCE. — Our import of cocoa from the Colonies increased in 1872 to 8,294,975 lb., being a million more than the preceding year. But the import of coffee from India and the Colonies fell from 131,000,000 lb. in 1871 to 114,720,843 lb. in 1872, the decrease being in the supply from India, Ceylon, and the Straits Settlements, which was nearly 127,000,000 lb. in 1871, but only 107,606,433 lb. in 1872. The import of colonial rum also declined from above 7,000,000 gallons in 1871 to 6,208,653 gallons in 1872; the decrease was chiefly in the supply from British Guiana. Our import of colonial sugar and molasses did not quite keep up to that of the preceding year, being 5,301,085 cwt. in 1871, and 5,224,461 cwt. in 1872.

## INFLUENCE OF MENTAL CULTIVATION IN PRODUCING DYSPEPSIA.

---

DYSPEPSIA is generally considered a disease of the stomach primarily; but I apprehend that in a majority of cases, especially among students, it is primarily a disease of the brain and nervous system, and is perpetuated by mental excitement. Among the reasons I have for this opinion, independent of my own experience, are the following:—

1. A blow or other injury of the head, or a tumour in the brain, frequently produces sickness, irritation of the stomach, and all the symptoms of dyspepsia.

2. "Dyspepsia may be produced by mental affections," says Dr. Parry; and in this opinion he is supported by numerous observers. Who is there that has not felt the influence of bad news or mental agitation in destroying the appetite and deranging digestion, and thus producing dyspepsia for a short time?

3. Insanity, or disease of the brain, is usually preceded by the symptoms of dyspepsia, and recovery from mental derangement is often marked by a return of these symptoms.

During the paroxysm or continuance of insanity the brain alone appears affected; but at other times, when the brain is relieved the stomach is affected. I am aware that Broussais and others say that in such cases the disorder of the stomach is the primary affection, and is truly chronic inflammation of the stomach, which, after continuing a considerable time, stimulates the brain until madness is produced. But the same able observer says that the insanity is preceded by long-continued hypochondriasis and other nervous affections, which I suppose to arise from disease of the brain, and not of the stomach, as he affirms. He refers to instances of melancholy from nostalgia, unrequited love, loss of fortune, mortified pride, etc.; but which did not amount to insanity until after long-continued disorder of the stomach. He supposes that in such cases the violence of the reaction from the disease of the stomach, produces insanity; but to me it appears more rational to suppose that the irritation of the brain, produced by the *moral* cause, not only caused the disorder of the digestive organs, but by its continuance increased the disease of the brain to such a degree as to cause mental derangement, just as we see a

blow on the head produce at first only slight sickness of the stomach and vomiting, but followed by violent delirium. From the cases which Broussais has given, it evidently appears that slight irritation of the brain, from mental or other causes, gives rise to derangement of the stomach, and produces the ordinary symptoms of dyspepsia.

I very much doubt whether sick headache as often arises from disordered stomach as from irritated brain. I have repeatedly noticed an attack of sick headache after indulging in stimulating food and drinks in the evening; but I have known the headache prevented by keeping the head cool after an evening's debauch.

Dr. James Johnson says that Mr. Weeks of Jamaica, when intoxicated, always went to sleep with his head in cold water, in order to prevent headache; and it is a common practice in India, and some other places, after drinking what is called a *mosquito dose* of brandy, to sleep with the head on a wet pillow, and thus subsequent headache is prevented. I have known this practice resorted to, and with like effect. But if the pain in the head is caused by indigestion, what possible efficacy can there be in keeping the head cool? I conceive, however, that the increased action of the blood-vessels during sleep, produced by the stimulating food or liquor, determines an unusual quantity of blood to the brain, irritates it; and this irritation of the brain produces the pain of the head, sickness and disorder of the stomach. I have noticed, moreover, that this disease most frequently affects those whose nervous systems are delicate and easily excited, and I have often known it produced by grief or great mental excitement, and it is seldom relieved without rest or long abstinence.

4. Examination of the bodies of those who have died after long-continued dyspeptic symptoms confirms the opinion I have advanced, that dyspepsia is often a disease of the head, and not of the stomach. Dr. Abercrombie, on "Organic Diseases of the Brain," says that "symptoms which really depend upon disease of the brain are very apt to be referred to the stomach." After mentioning several cases in which for a long time the prominent symptoms were those of dyspepsia, and in which no trace of organic disease of the stomach was discovered after death, but tumours or other diseases of the brain, he says: "Many other cases of organic disease of the brain are on record, in which the only morbid appearances were in the head, though some of the most prominent symptoms had been in the stomach. Some of these resembled what has been called sick headache; others were chiefly distinguished by remarkable disturbances of the digestive

functions." Dr. A. adds this important caution: "In cases of this class we must beware of being misled in regard to the nature of the complaint by observing that the symptoms in the stomach are alleviated by attention to regimen, or by treatment directed to the stomach itself. If digestion be impeded, from whatever cause, these uneasy symptoms in the stomach may be alleviated by great attention to diet; but inference can be drawn from this source in regard to the cause of the derangement."

This last quotation, I think, explains a very common mistake—a mistake which is not only made by dyspeptics themselves, but by writers on this disease. They suppose because low diet, etc., relieve the principal symptoms in the stomach, that, therefore, the disease is confined to that organ; when in fact the disease is in the head, but is manifested only by the stomach, the liver, or some organ with which the brain sympathises, and the *low diet* gives relief by lessening the too energetic action of the brain.

Dr. Burrows relates the case of a lady who had been unwell for several years. She referred all her suffering to the stomach, and often said that when she was dead *there* would be found the seat of her disorder. She died rather suddenly with fever and delirium, after exposure on a very hot day; and on examining the body no trace of disease appeared in the stomach or bowels, but the brain exhibited marks of long standing disease.

5. The fact that dyspepsia is frequently cured by permitting the overtasked and tired brain to rest, or by changing the mental labour or excitement, is evidence that it is primarily a disease of the head, and not of the stomach. How often do physicians fail to afford any relief by medicines in what are called "stomach affections," but which are readily cured by travelling, or relaxation in accustomed studies, and freedom from care and anxiety! How often a change in the mental excitement affords relief! It seems as if certain portions of the brain having been unduly excited, became diseased, and were benefited by strong excitement of other portions of the same organ. How often are stomach affections cured by inert medicines, aided by the imagination, confidence, hope, etc.

6. The fact that dyspepsia is a disease chiefly confined to the studious, to those whose minds are much exercised and excited, and to those who, by too early mental education, have had a predominance given to the nervous system, is evidence that the brain is the primary organ affected. I know it is said that the sedentary habits of students cause this disease, and no doubt exercise is necessary to preserve their health; but it proves beneficial by



changing the circulation and determining the blood from the head. If they studied less, exercise would not be so necessary. I have not observed that tailors, shoemakers, etc., are particularly liable to dyspepsia. It often happens that men who commence study late in life, after having been engaged for years in some laborious employment, become in a short time dyspeptic. I conceive that this arises from too severe labour put too suddenly upon the brain. This organ should be gradually exercised in order to develop it properly, and fit it for severe labour without injury.

It is often said that intoxicating liquors produce this disease ; but I have been astonished to see how many drunkards are free from it.

Good living is said to cause dyspepsia ; but the most healthy people I have ever known have been among those who lived well—who ate freely several times a day of the most nutritious food. By some it is said that tobacco, snuff, tea, coffee, butter, and even bread, cause this complaint ; but whoever will make inquiries on this subject throughout the community, will find that this is seldom true. In fact dyspepsia prevails, according to my experience, altogether the most among the temperate and careful—among those who are temperate and careful as regards what they eat and drink, and the labour they put upon the stomach ; but exceedingly careless how much labour they put upon that more delicate organ, the brain. Such people often eat nothing but by the advice of the doctor, or some treatise on dyspepsia, or by weight ; nor drink anything that is not certainly harmless ; they masticate every mouthful until they are confident, on mature reflection, that it cannot hurt the stomach. Why, then, are they dyspeptics ? Because, with all their carefulness, they paid no regard to the excitation of the brain. They continue to write two or three sermons or essays in a week, besides reading a volume or two, and magazines, reviews, newspapers, etc., and attending to much other business calculated to excite the mind.

To me it is not strange that such persons have nervous and stomachic affections. The constant excitement of the brain sends an excess of blood to the head, and therefore other organs are weakened ; and morbid sensibility is produced, which renders the stomach liable to derangement from very slight causes.

"I tell you honestly what I think," says Dr. Abernethy, "is the cause of the complicated maladies of the human race ; it is the gormandising and stuffing, and stimulating their organs (the digestive) to excess, thereby producing nervous disorders and irritations. The state of their minds is another grand cause ;

the fidgeting and discontenting themselves about what cannot be helped; passions of all kinds—malignant passions pressing upon the mind—disturb the cerebral action and do much harm.”

This statement should be reversed, I think. It is the fidgeting and discontenting ourselves that makes the gormandising so dangerous. I do not mean, however, to approve of gormandising; and I know that people in this country generally eat more than is necessary; still I do not believe that good nourishment, and abundance of it, causes many of the diseases that flesh is heir to. Nations that are the best supplied with food are the most healthy, live the longest, and have most vigour of body and mind. Children, especially, should be well nourished. Good diet is an essential part of good education. The method of rearing children which some propose—and which I fear some adopt—of restricting them to very light food that contains but little nourishment, is very reprehensible. Every farmer knows that such a course would stint and ruin his cattle, and it will as assuredly have such an effect on children. The way to make children thrive and do well, is to give them plenty of good food, and keep their minds free from anxiety and chagrin.

Insufficient nutriment weakens the mind as well as the body. Many writers place poor diet at the head of the causes that weaken attention and debilitate all the faculties of the mind. Thus, we often see that disease which wastes the body enfeebles the mind also; though this is not always the case, for sometimes the brain does not diminish as the other parts of the body do.

But to return to the causes of dyspepsia. We do not find this disease prevalent in countries where the people eat most enormously. Travellers in Siberia say that the people there often eat forty pounds of food in one day. Admiral Saritchaff saw a Siberian eat immediately after breakfast twenty-five pounds of boiled rice, with three pounds of butter; but dyspepsia is not a common disease in Siberia. We do not learn from Captain Parry or Captain Lyon that their friends the Esquimaux are very nervous and dyspeptic, though they individually ate ten or twelve pounds of solid food in a day, washing it down with a gallon or so of train oil. Captain Lyon was, to be sure, a little concerned for a delicate young lady Esquimaux who ate his candles, wick and all, yet he does not allude to her inability to digest them.

The influence of the mind in producing disease appears to be but little regarded in practice, though there are few who will not acknowledge that this influence is great. Plutarch says in one of his essays, “Should the body sue the mind before the

## ICE.

---

THE use of ice has gradually increased among our population in the last twenty years, at an ever-accelerating rate, although it is as yet by no means as necessary an article in our domestic economy as among our American cousins. Boston is said to consume double the quantity of ice that contents London; yet, wherever we go, "ICED" heads the advertisement of drinks in our places of refreshment, and refrigerators and various contrivances for the application of ice are advertised extensively. In such an unprecedentedly hot season as the present, the British public slowly but surely wakes up to the necessity of utilising the wintry cold products to balance the summer heat. Ice not long ago was accounted a luxury; it is not yet, but we hope soon will be, esteemed in the household, as well as in places of public entertainment, a necessity; economy advises it, health and taste demand it, but so long as we depended on the uncertain home supply, expense forbade it. The hardest English winter, moreover, though it might fill private ice-houses and the ice-wells of our dealers, would not yield ice of a reliable purity, or of a durable degree of congelation. The importation of Wenham Lake Ice from America was the first step in the process of bringing within reach of every one ice of a strength, if we may use the term, which would bear transit and keeping, and a purity which would allow a lump to be dropped in to cool, as sugar to sweeten, any beverage. Various attempts have been made to manufacture ice on a large scale; the use of steam-power has enabled enormous quantities to be produced by one process; but the London market—and, by the northern ports, the various English markets—are now altogether supplied with ice from Norway. The amount is influenced by the severity or mildness of our winter, and varies from 30,000 to 50,000 tons; the ice from the rivers and ponds in the environs of London is by no means neglected, for it is gathered and stored, and, as rough ice, is preferred for all exterior purposes. The various trades—fishmongers, brewers, confectioners, butchers, and poulterers—prefer the English ice, if procurable, not only as cheaper, but because it yields more readily to the liquefying powers of the

salt mixed with it (usually 3 lbs. of salt to 10 lbs. of ice), and thus cools or freezes more rapidly than the hard, smooth blocks of foreign ice; it has, as a leading ice merchant remarked, "more gravy in it." Thus the patriotic mind need not fear that the Norwegian ice, like the carpentry and firewood, will supersede our home production. It must be borne in mind that ice which is mixed with our food or drink must be pure, and all ice that looks clear is not necessarily pure; for our analysts tell us that, as clear sparkling water may hold in solution poisonous matter, so crystalline ice may, when dissolved, actually prove putrescent, and by smell betray the foulness of the water whence it came; or else it may contain unsuspected unwholesome mineral salts. The mountain tarns and lakes of Norway, fed by the melted snows, and uncontaminated by drainage, yield a pure wholesome ice, and the Norwegian bonders have found a new source of industry and profit in the ice harvest. The Oppegaard Lake, now re-christened the "Wenham Lake," and the property of the company of that name, is but one of many which rival, though do not surpass it, in the undoubted purity of its waters. The process of ice-ploughing and storing need not be described. The ports of Drobak, Drammen and Christiania, Lauwig and Kragero, Wiburg and Brockstadt, are the chief emporia, where the huge crystalline blocks, weighing from 2 to 4 cwt., are stored, waiting for the opening of the navigation and the demands of heated London. By sailing ship and steamer, sometimes in advance of the demand, sometimes in answer to a hurried telegram, the supplies of solid coolness and refreshment come. The king of the ice trade is Mr. Stevenson, whose trade thirty years ago was but 300 tons annually, and now reaches 600 tons per week; next come Messrs. Leftwich, and Carlo Gatti, who deserve the praise of having brought ice within reach of even the humblest. We have visited the ice stores of Messrs. Stevenson; the wells consist of enclosed brick chambers of 50 cubic feet, with double doors, in thick double brick walls, excluding all light; each chamber contains 1,000 tons. A steam lift hoists the cartloads of ice to the top, and it is then shot down just as coals are loaded into a collier. The cold, dark atmosphere, with the steam rising from the icy floor, might suggest a dream of one of Dante's circles. Near the principal wells in Cambridge Street, Hackney Road, are others of an older construction, built underground, and of less capacity. Above the roof of the wells is a loft with open sides, for storing and drying sawdust, of which 200*l.* to 300*l.* worth is used annually in the packing of the ice sent out. The huge blocks come over in the vessel's hold without any packing, and

are handled like blocks of marble. But many a one who has vexed his soul with trying to break a lump of ice will be surprised to learn that to split them into manageable pieces it is only required to take a sharp-pointed "ice-dibber" like a large brad-awl, and with this to stab the surface, making several slight holes in a line, when the block splits without any further trouble; to divide a small piece of the hardest ice, you need only take a bodkin and sharply prick it, and it will break up without flying into your face or your neighbour's lap—wit herein surpassing strength.

The ice as imported can be sold at prices varying from 30s. to 40s. per ton; but, of course, the waste and fluctuations in demand, and the difference in the rate of supply to large and small consumers do not allow it to reach the general public at that rate; but the supply is always equal to the demand; and the hardy Norseman, by the beneficent intervention of Messrs. Stevenson, Leftwich, Gatti, Kent, the Wenham Lake Company, or Messrs. Duus and Brown, of Fenchurch Street, can furnish us all with this cheap luxury, whenever that happy time comes in which Londoners are as wise as the Americans in the use of ice. We have already enumerated the trades in which ice is used: the fishmongers and dairymen long monopolised it as a preservative; now the butchers and poulterers employ it extensively; the brewers use rough ice to cool their wort, or even throw the Norwegian blocks into the vats; bacon, too, is cured by its help. The public more directly appreciates the luxury of ices and iced drinks, and, in the household, the benefit of refrigerators ensuring cool water, solid instead of oleaginous butter, and joints kept long enough to be tender, without disappointing the mistress and destroying the equanimity of the master. We will not attempt to enlarge upon the different varieties of ice pudding, dessert ices, etc. Next to their richness and flavour, the great secret of their preparation lies in the care with which they are whipped or churned during congelation. Most machines for this purpose are constructed on the rotary principle. Kent's Paragon Freezer appears adapted to save labour, and the Imperial of the Wenham Company is also a good one for the purpose. Ash's Piston Freezer, as its name imports, is worked up and down, and an advantage is obtained of being able to ice wine, make block ice, and freeze dessert ices in one operation: in all these either ice and salt is used, or else freezing powders. A very simple one can be made by mixing 1 lb. nitrate of ammonia, 1 lb. carbonate of soda, and pint of water; or a more intense freezing mixture, with 2 lbs.

pounded ice and 3 lbs. crystallised chloride of calcium or salt of lime. It may not be amiss to remark that a quantity of ice after meals is injurious, by stopping the secretion of gastric juice, and interfering with the process of digestion. A gastronomic process may also be made against the somewhat senseless fashion of following up iced pudding with post-prandial dessert ices—that is to say, if you relish your wine. The palate is demoralised. Far better to keep the ices for the drawing-room, for both the digestion of the dinner and the enjoyment of the wine will be improved by the postponement. We will not venture on praise or dispraise of the various ices of the numerous confectioners; we only wonder at the badness of some, and rejoice to see the custom of mixed, or “Neapolitan,” ices becoming general, the water ice, by the harmonious discord of quality and flavour, improving the cream. It is a cause of wonder why, in some confectioners’ shops and in theatres, 1s. should be charged for ices neither so good nor so plentiful as Carlo Gatti, for instance, serves in that beautifully decorated café near the Hungerford Pier.

The mention of Mr. Gatti reminds us that the enjoyment of ices is now by no means a luxury confined to the possessor of 6d., for he was the first introducer of penny ices. He himself assured us that in 1851 he sold no less than 3,000,000; and now, though they are not as popular, partly owing to the carelessness of the vendors, there are two hundred shops in London where penny ices are procurable; but besides these we have seen little gamins, such as thrust the *Echo*, *Sun*, and “box o’ lights” in the faces of passengers, standing round a street *ice-stall*, each with his glass of bi-coloured ice, licking it up, spoons being despised, with great enjoyment, and paying  $\frac{1}{4}$ d. only for it. An itinerant vendor, whose stall was in Seven Dials, informed us that on a fairly hot day his average earnings were 7s.; his ices, of one colour, were composed of eggs, milk, arrowroot and sugar, and he could sell 5s. worth for 12s. The ice necessary for freezing he bought for 2s. 2d. per cwt.—English ice. Whit-Monday, with its blazing heat, was a great day for him, for he sold halfpenny ices at Hampstead Heath to the amount of 3l. 15s.! At all events they were innocuous, which is more than we can say of all cheap popular refreshments.

We hope it will not be deemed an impertinence to suggest to the reader that wine is very often spoiled by being iced instead of merely cooled. If the wine be bad, especially “sparkling,” ice it well by all means, and drink it while effervescing, and you will not notice its quality so much, till afterwards. If good, let it be first cooled, not in ice, but water with some ice in it, so

as to avoid excess of cold; for the colder the wine the less its flavour, and you can, if you choose, sacrifice the flavour to the luxury of a cool drink. Champagne *frappé* is a *spécialité*. The water is frozen, and the delighted but extravagant palate is rejoiced with the spirit and the liqueur. It is to be remembered that it is needful to wrap a wet cloth round the bottle when removed from the cooler. As for iced cups and mixtures, their name is legion, as may be said of the many refrigerators of all sorts and sizes. Norway, not content with supplying ice, has recently sent over very cheap refrigerators, which certainly seem adapted for simple use, and are decidedly so for households of small incomes. The danger, so often incurred, of the various meats, fruits, etc., being contaminated by any ill-odour, or even by the closeness of the vessel, is admirably obviated by Kent's ventilating refrigerator. The same ingenious inventor has supplied our licensed victuallers with a bottle refrigerator, or ice wine bin, and has met the requirements of small families by a miniature contrivance which can stand on the sideboard, or even ensure a comforting coolness of drink for the sick patient. A very complete and elaborate affair is the "Duplex" of the Wenham Company, which can be used either for rough or block ice, and is furnished with a tank for iced water. We would not advise the possessors to use this water for their matutinal tub, however grateful the chill of the water may be. No one over twenty-five, or under, if wise, will subject himself to the injurious and depressing influence upon the system exercised by a really cold sponge bath. We can only briefly touch on the use of ice as a hygienic agent. Not only are iced drinks grateful to the fevered palate, but the sick craving for them may be safely gratified; and we must here mention a fact creditable to the charitable donor, that any sick person, at any hour of day or night, is supplied with ice gratis at Mr. Gatti's ice stores, on production of a medical certificate. Ice is the best remedy in *coup de soleil*, or any headache brought on by exposure to the sun, as its application produces constriction or contraction of the minute blood-vessels, which are relaxed by the heat. For hemorrhage and irritability of the stomach, ice is largely used as a remedial agent. We do not know whether its application is a remedy for sea sickness, but we are sure that the increased employment of it in our hospitals would be of great advantage, and we heartily commend the example of Mr. Gatti's benevolence in ice to our other ice importers.

E. W.

## A VISIT TO THE WORKS OF THE "SOMERSETSHIRE PEAT-COAL COMPANY, LIMITED."

SOME seven or eight years ago the following passage appeared in the *Times*:—"The huge bogs growing over and covering up 6,000,000 acres of good land in the United Kingdom are useless excrescences." When this sentence was published men were already considering whether they could not be turned to some profitable use. At that time coal, for which we are now paying 30s. per ton—could be purchased in any quantity for 16s. or 17s. per ton. If, therefore, earlier attempts to utilise peat for fuel ever had a prospect of commercial success, present speculations ought at least to have a double chance of succeeding.

Whilst pondering on this subject, we heard that the "Somerset Peat Coal Company" had recently commenced operations at Shapwick—an out-of-the-way district on the Somerset and Dorset line—situated at the northern edge of Sedgemoor, from which, however, it is separated by a strip of rich and well timbered land. The station had nothing very lively about it. No village—no hamlet, was in sight, whilst a melancholy looking inn seemed dying for want of something to do. On the "moss," however, were a number of tables, a couple of wooden cottages, two store sheds of considerable size, and a few girls and men actively at work, marking the scene of the industry we came to inspect.

The valley of Shapwick, a long water worn plain, is nothing but a vast peat bog, as flat as a croquet lawn, but wearing, nevertheless, an aspect interesting from its novelty. Scattered over its wide surface are patches of oats, potatoes, beans in full blossom, small fields odorous with hay, and swampy looking meadows, interspersed with wide stretches of blossoming heather, on which are piled innumerable stacks of turf of all shapes and sizes, the many coloured picture being set in a gay frame formed by the Mendip hills, by a low wooded ridge, and the distant channel.

The turf, to which reference has been made, is altogether a different article from peat-coal.

The site chosen by the company has been selected with a judicious eye to business, for it almost touches the station. A few steps, therefore, bring us on the ground where four girls, singing at their work, are busy making what, at a little distance, look like



half pound pats of "Dixes Cocoa." But we must go *secundum artem* through the process, or we shall fail to convey an intelligible idea of it to the reader.

There is a trench some 30 yards long by 6 or 7 feet wide, and about as many feet deep, in which a stout Somersetshire lad cuts great slabs of smooth, dark, dripping moss, and flings them with a dexterous sweep of his spade to the feet of another man on the bank above, who stands by the side of a small machine of doubtful aspect, something between a coffee-mill and a cannon. This is the present "pulper"—the only piece of machinery, by the way, at the works. If we follow the whimsical idea of a gun, it may be called a "breach-loader," inasmuch as the impliment is charged at the butt end with the soft blocks of moss, and fired by turning a handle (something like a mitrailleuse), which, forcing the mass through cylindrical cutters in the barrel, delivers it at the muzzle in the form of a fine pulp. And here we must pause for a moment in our description to observe that all modern companies formed for the conversion of peat into peat coal are agreed that this introductory process is essential to success. Unless the spongy fibre is destroyed, condensation and rapid drying are impossible. The pulp is next carried to "the tables," where the process of moulding and drying—the two specialities contained in the patent of the Company—are carried out.

These tables are rough frames covered with lattice-work; each is 12 ft. long by about 4 ft. wide and 3 ft. high, and when three of these are temporarily united by wedges, they constitute "a terrace." Being light, they are easily moved to any point where the "pulper" may be working: a saving of labour is thus effected. Let us watch the peat-coal whilst it is moulded. When the paste is wheeled to the table, a few shovelsful are placed on a board within reach of the workers, one of whom stands at either side of the table. As much of the paste as can conveniently be held in the hands is scooped from the mass, and rapidly moulded into an oval form; then it receives a few sharp slaps from either hand, is placed on the lattice-work, and will be "coal" at the end of three days. The board is replenished with pulp as the work proceeds, and is pushed further and further towards the far end of the terrace as the "pats" occupy it. So far as we could judge, each girl turned out something like three or four of these little cakes per minute. We watched two of the ladies whilst they covered a terrace with these neat doughy morsels of coal—that is to be. Soft as pats of butter in the sunshine, in colour resembling chocolate, in size and shape something like

so many French rolls, they were placed, each touching each on the table, with marvellous despatch. The "drippage" was small—indeed, scarcely any could be seen. Close at hand were tables that had been covered the day previous, and here it was not difficult to see the progress the pats had made towards dryness. They were scarcely half the size of those just formed, and had already become hard and firm. At the end of the third day the peat had become "peat-coal," when it was raked off the frames into baskets, and carried to the store-sheds, one of which was full, whilst the other was being rapidly filled.

Unwilling to interrupt our description of the actual manufacture of the peat-coal, we have confined our narrative within the narrow limits of what we saw. We must now, however, take a somewhat wider range. It has been already observed that hand moulding and drying on frames open to the action of the weather are, *par excellence*, the *specialités* of the Company, and the advantages derivable from them are unquestionably great, for example, each crop can be made and dried in three or four days, common turf requiring two or three months. It can be sent in bags, or otherwise, like coal, to any distance by sea or land without waste; from its condensation, one waggon will carry as much value in fuel as ten could do of ordinary peat; the quantity of common turf that can be made is limited to the size of the drying-ground, which will give but one crop in a season, whereas on an equal space thirty or forty crops of "the coal" can be produced. Sun and wind are the unpaid agents employed in drying. It would be interesting to compare the methods employed by other companies, but time and space forbid it; moreover, we are only on a visit to Shapwick.

That these works are in their infancy is obvious. The number of hands are few, and no mechanical appliances are at present used for economising the labour of pumping, carrying the coal to the sheds, and the like. The solitary piece of machinery on the ground scarcely turns out sufficient pulp for the few workers employed. Economy appears to be the rule. There is no costly machinery; no superfluous staff; no plant, to waste capital or expend earnings. When enlarged to the size contemplated, a few fathoms of tramway, and a couple of small windmills for driving the pulper and carrying off surplus water, are all the mechanical additions contemplated. It will be said that hand labour diminishes profit. It may, perhaps, be replied that here the receipts justify the means. At present there are only 80 terraces in use, whilst 400 are about the number that might be employed. The hands

now at work are not above seven or eight; 400 terraces would require at least 22 men, women, and children.

Up to this time the company have declined to sell their coal, neither, as it appears, have they taken any of the ordinary methods for advertising their goods. The consequences, therefore, are such as might be expected. The existence of the company is little known, whilst the shares can scarcely be said to be in the market. Probably the directors prefer to test the commercial capability of the concern on a very limited scale, and consider a dividend, on capital, however small, as the surest recommendation to public favour. We do not agree with these views. The price of coal renders some cheaper substitute almost a necessity. We are assured that the stock in hand could at once be disposed of at remunerative prices, and that any quantity that could be made would command a ready sale. It is difficult to imagine what any company can desire more than a limitless power of production, and a corresponding demand.

The peat-coal we saw was of considerable density, for when packed in bags capable of holding ten stone of pit coal, the same bags filled with peat weighed eight stone. Its heating power, weight for weight, is certainly equal to that of pit coal. It is an admirably clean and wholesome fuel; it may be handled without soiling a kid glove; its size is convenient; its appearance agreeable; its price about two-thirds the present value of coal, whilst the cost for carriage is less than coal. As a generator of steam it is excellent; nor do we feel much hesitation in affirming that, so far as the works in question have been carried, they are a success. As we have said operations are at present conducted on a very limited scale, but that which succeeds in little, will *ceteris paribus*, succeed in much.

It was late when we left the moor. We had made divers and sundry "pats," had meddled with the machine, had satisfied ourselves that the peat was of good quality and practically inexhaustible, and in a general way had so thoroughly enjoyed ourselves that as the train carried us through the bog we heartily wished our visit to Shapwick was in *futuro* rather than in *præterito*.

WM. PEARD, M.D.

---

GREAT CATCH OF SALMON.—An extraordinary draw of salmon was recently 'e from the Wye, no less than 175 being taken. These were all taken by two and five men, in the employ of Mr. Barker, Monmouth. The total weight 1000lbs.

## TRUFFLES.

---

TRUFFLES, like coprolites, are somewhat of a mystery. Their appearance is not prepossessing; they are worth, however, in Covent Garden Market, as much as 3s. per lb., and they often, in seasons when they are scarce, command a very much higher price. The value of this exquisite fungus is purely a fancy one. What is it that constitutes the charm of the "diamond of the cuisine?" It cannot be admitted that it possesses qualities of sufficient intrinsic value in themselves alone to account for the *furor* it creates. Nevertheless, truffles act magically on the palate and the mind of the epicure; phantoms of ethereal voluptuousness dance before his eyes, and the expectation of coming bliss reposes upon his countenance, produced by the mysterious influence of the magic sound of the word truffle. There must surely be some potent but indefinable principle pervading the exquisite cryptogam, the influence of which beatifies the gastronomic propensities of man. What is the element in its nature which produces such rapturous effects upon the palate of the epicure? Does mind in this case govern palate, or does palate govern mind? Is there intrinsically any superlative excellence in the fungus, or does its superlativeness exist only in its price?

The structure of this marvellous fungus is of a firm, fleshy, fibrous nature; when fresh it possesses a strong aromatic flavour, which is much esteemed. One can hardly believe that this aromatic flavour alone is sufficient to warrant the exalted estimation in which it is held. What is it then? Can it be its price? Has the expense which attends the production of a dish of truffles anything to do with the mania for them which exists now-a-days? Truffles are the abracadabra of the cook; they are his magician's wand, which at his bidding endues mediocre materials with splendour and luxury; through whose agency he evolves from common things sumptuous *plats* and exquisite *entrées* of ineffable flavour. One cannot fathom the mysterious cause which creates the favourable impressions which the word truffle inevitably produces on the minds of the expectant guests; certain, however, it is, that an ecstatic condition of the mind *is* created. Are they, I would ask, on the ground of their delicate flavour and exquisite aroma alone, setting aside their fabulous cost, of sufficient intrinsic value to warrant the degree of rapture with which they are welcomed? That there is a certain

amount of healthy exercise offered to the teeth in their mastication, that the palate takes delight in playing with their flavour, that the sense of smell is gratified by inhaling their aroma, and that the fancy is excited to ecstasy (as with the fumes of opium) are some of the reasons urged by ardent admirers to account for their popularity. Medicinal properties have been attributed to them, but such qualities are doubtful. The delicious aroma is by many unsophisticated and ignorant persons, stigmatised as being nothing more than a nasty pungent smell. *Chacun a son goût.*

A lady acquaintance of Brillat-Savarin; having indulged in truffles at a *petit souper*, credits them with an influence, naughty if nice, and dangerous in the extreme. She accused them of releasing her tender feelings from the thralldom of her will, and so accounted for a flirtation, which, to say the least, was a little *outré* in a married lady. I ought, perhaps, to mention that the husband was unexpectedly called away from the table, so the *petit souper* was reduced to a *tête-d-tête*, which may have had more to do with the state of affairs than the truffles. But further proof is required, before one is justified in positively asserting that truffles have any direct influence on the more tender feelings of human nature. Cupid, old writers tell us, was in their days armed with a bow and arrows, which antiquated weapons he has doubtless thrown aside as too old-fashioned, finding the newest thing in breech-loaders, with a charge of truffles, more effective. I may say, with Lord Dundreary, truffles are things which "no fellah can understand." Certain it is, however, that the truffle plays a prominent rôle in the drama of "*la haute cuisine.*" You have but to place on your bill of fare, *pâté de foie gras truffé*, *dinde truffé*, or any dish in which truffles are known to exist appreciably, and every palate, whether it be vitiated by the excesses of the voluptuary, or cultivated to refinement by the delicate indulgences of the fastidious gourmet, will, metaphorically speaking, tremble with delight. The truffle was long ago known to the Romans, but it apparently vanished into obscurity for a season, as they were rare at Paris in 1780, and it is only in these latter days that they have occupied a *distinguée* position as one of the choicest delicacies which nature or art can furnish for the delectation of the epicure. Very few first-rate *entrées* are now without them, and they are indispensable for ragoûts. Truffled turkey, pheasants, fowls, etc., it is asserted by connoisseurs, should be stuffed with truffles immediately after they are killed, and should then be hung with the truffles in them until they are in prime condition for cooking; by which means the flavour and aroma of the fungus is said to pervade the flesh of

the bird. Certain naughty people, in places where truffing fowls and game is carried on largely as a trade, frequently pound the parings of truffles in which there is not much flavour; this they mix with peeled truffles, they then stuff the birds with this composition, and sell them as if they were properly truffled, which is a cruel deception, and should not be. Some naughty people, again, steep truffles in water, it is said, to make them weigh heavier, and this, again, surely should not be. Pliny mentions the truffle, to which he gave a rather coarse and indelicate name. But it was evidently in the first instance to Piggey (whose gastronomic propensities are not generally considered to be of a refined nature) that we are indebted for the discovery of the truffle. Pigs are still used in some places to hunt for them, as also are trained dogs, which are more in vogue; and men, who are accustomed to the sport, or trade, can tell, it is said, from instinct, or from the appearance of the ground, where these precious cryptogams lie buried. The black truffle of France is the most highly esteemed, and those from Perigord, and the district at the foot of the Pyrenees, are of the most value. They are preserved in bottles, and so exported to this country, but the inferior qualities, which are of lighter colour and brown, are, alas, too frequently stained, and sold as *bond fide* "*truffles du Périgord*."

Truffles are, perhaps, most abundant in Italy, but they are not so good as those found in France. There is a circumstance which frequently leads to the discovery of truffles which I have not mentioned, but it is an unerring indication of their presence. Monsieur Nogués, in his *Botanique industrielle*, states that there is a species of fly which deposits its eggs in the truffle, on which the larvæ feed. When this fly is seen hovering over a spot, the truffle hunter knows that there his quarry will inevitably be found. Truffles would appear to be gregarious in their growth; where one is found, there others will certainly be discovered if searched for. If the bed is disturbed by looking for them, even if they are not abstracted, they will cease to grow; and when ripe they do not make any further growth, but if not dug up when they have arrived at maturity, they will in time rot. On the other hand, disturbing the soil appears to make it more prolific for another season. At the beginning of summer truffles are no larger than peas, and they are then red outside and white inside, and are insipid. Man's propensity for truffles is not confined to himself: dogs, swine, wolves, and foxes have also a weakness for them. Although wet seasons are favourable to their growth, they are never found in wet or heavy soils, but generally in light calcareous soil, or in a mixture of clay and gravel—always in loose soils. They do not grow in open places where the soil is

very dry, though apparently they are not materially injured by drought, their growth is checked by it however, but they make up for lost time after the first shower of rain. They are always found in the neighbourhood of trees, and in districts where oaks principally abound, or birches, poplars, chesnuts, and willows, and mostly where a number of these trees grow together, as in woods or forests. After a heavy summer shower or thunderstorm, they have been observed to make a sudden and rapid growth like mushrooms. The size of the truffle varies very much, but they are seldom found larger than from three to four ounces to half-a-pound each. Monster truffles may be classed in the same category as sea-serpents, the facts generally being shrouded in mystery, and the details of their discovery frequently ambiguous. They appear to be gifted with the power of motion, for as they grow they rise nearer to the surface of the ground, frequently pushing themselves out of it altogether. The dog used for truffle-hunting is a wirey little terrier, but there is no particular breed, I think, noted for its sagacity in this respect, and the dog is generally a mongrel; but those dogs whose father or mother have been used for the purpose of truffle-hunting are said to be more easily trained than others. They are first taught to distinguish the smell and taste of the subterranean fungus, and hunting for it they smell about, and when they discover the peculiar odour, they scratch at the spot where the truffle is buried, and the hunter comes to the rescue and digs up the much prized "warty globose ball of concentrated delight." A few truffles are occasionally given them as a reward. Where truffles grow, the surface of the ground is generally bare of all vegetation. To be eaten in perfection they should be perfectly fresh as, like vegetables, they lose much of their delicate flavour if kept for a day or so after they are gathered, and, moreover, the aroma is not nearly so *prononcée* as when perfectly fresh. The preserved truffle does not possess the ghost of the excellence of the fresh tubers. There is some flavour in the parings of truffles, though it is of slight amount. Being invariably irregular in shape, and the surface being covered with warty excrescences or tubercles, renders it difficult to pare them without removing a considerable portion of the flesh, consequently, these parings are largely used by cooks as an economical means of producing the flavour of the truffle. Truffles (*Tuber libarium*) of an inferior kind to the black truffle of France, abound in England more generally than is usually imagined; the flesh of these is of a light brown colour, and their quality is not nearly equal to that of the other. They have been found at Holkham in Norfolk; specimens have been discovered at

Trumpington in Cambridgeshire, and in Rutlandshire, Northamptonshire, Kent, and Wilts, and they abound in the New Forest in Hampshire. "Truffles," says Mr. Berkeley, "are for the most part found in calcareous soils. In some parts of France, as in Poitou, it is simply necessary, in order to their supply, to inclose a spot on the calcareous downs, sowing it with acorns. As soon as the saplings attain a growth of a few years the truffles appear, and a harvest is obtained for many years successively, without further pains."

With regard to the cultivation of this, the most delicious of the esculent fungi, attempts have been made, but they have not been crowned with success, although in almost every instance they were not quite futile; so that the opportunity of realising a magnificent fortune, remains for anyone who can solve the intricate problem of their cultivation. The truffle is found in the United States but rarely, and is more abundant in Africa. The African species, which has long been known to inhabit Algeria, is different to ours, but the American is the same as the European kind. In New Zealand, likewise, the truffle is found, but their growth to an appreciable extent is, as far as we know at present, confined to Europe, where Italy and France are the principal truffle producing countries. In Australia specimens have been discovered; also an esculent root or fungus abounds there, which the natives dig up and eat, which is not a truffle, I believe, however. "The *tuber æstivum* is almost the only species which appears in our markets, but in France the more highly flavoured *tuber melanosporum*, and the *tuber magnatum*, and some other species are commonly consumed," says Mr. Berkeley. *Tuber rufum*, *tuber moschatum* are found in some parts of France, and in Italy. There is a species of a nearly allied genus found in Germany, which is called the white truffle, *rhizophaea album*; it grows half out of the ground, is of a whitish red colour, and is generally of the size of a large walnut, but it is not a truffle.

Truffles, when procured perfectly fresh, should be baked in their skins as potatoes are, and eaten with butter. They may also be stewed in good broth, or *au vin de Champagne*, or *au Madère*, and accomplished chefs present them *au Mirepoix*, which is an excellent method. Truffles should never be washed. That high authority for all things connected with epicurism, Brillat-Savarin, states that truffles are not indigestible, but that some people who from gross habits or selfish gluttony eat them too fast, in point of fact, for fear the dish should disappear before they are ready for a second edition, naturally suffer from indigestion.

P. L. H.



## THE ROYAL HORTICULTURAL SOCIETY AT BATH.

---

A SHORT account of the meeting of the Royal Horticultural Society, held this year at Bath, may not perhaps be uninteresting to the readers of the *Food Journal*. Notwithstanding the lateness of the Spring and the unpropitious weather, vegetables seem on the whole to have prospered well this season; but fruit, and especially wall fruit, has been almost hopelessly affected. That indispensable article of food, the potato, seems happily to be in a most healthy condition, and the specimens exhibited at Bath were remarkably fine. Early May, Myatt's kidney, Flock kidney, Carter's main crop, etc., were well worth seeing, but the manaprides were the finest specimens. This potato grows best in a sandy soil. Peas, cauliflowers, and cabbages seem to prosper well in Somersetshire, the prizes for these vegetables being awarded to specimens grown in the neighbourhood of Bath. Notwithstanding the fame of the cauliflowers of Cornwall, not a single specimen from that county was to be seen. The show of asparagus was very good, as also the display of cucumbers and onions; of the latter, the white Tripolis and the early Naples formed quite a picture. The cucumbers, of which the Marquis of Lorne and the Dreadnought were the finest, were of an enormous length. These cucumbers are trained from the top of a greenhouse, instead of trailing on a bed. The prize was given to twins of the same size grown on one stalk.

The display of carrots, lettuces, vegetable marrows, and turnips, was very poor, but the artichokes appeared healthy and fine. Some garnishing parsley was noticed fine enough to have made a wreath for the victors of the Nemean games.

Of the fruit, the grapes, which chiefly came from Wiltshire, and the pineapples were magnificent, but of wall fruit in general there was very little worthy of notice. Of the commoner kinds of fruit the strawberries were particularly fine and appeared to be plentiful. Of gooseberries, currants, etc., it was, of course, too early to judge, though now they seem to be very plentiful. There was very little honey exhibited, but a box with one unbroken comb, from Batheaston, weighed 39 lbs.

The tent set apart for dinner decorations was especially interesting. Five tables were laid out for dinner *à la Russe*, and the *nes* and vases of flowers were arranged in a very elegant

manner; on one the napkins were folded like water lilies with flowers in the centre, which had a very pretty effect; on another they were in the shape of towers, and trimmed round with flowers which did not look so well.

An interesting microscopic *soirée* was held at Bath during the meeting at which the pests infesting the vegetable world were principally shown, as each plant has its own particular enemy. It spoke well for hot house productions that the thrip, the great destroyer of the green house, could not be found in the Exhibition.

EXPERTA.

---

**THE FISHERIES.**—The salmon fishing in the Tweed improved last week, particularly in salmon and grilse, but the number is still considerably short of the produce of ordinary years at this season. Salmon are numerous on the coast, but the foul condition of the river, caused by discharges from the mills and the growth of vegetable matter, prevents fish entering freely from the sea, and until the impurities are carried away by a flood it is not expected that very great hauls of fish will be obtained. Several salmon caught last week weighed upwards of 30 lb. each. On several days upwards of 100 grilse per day were caught in the Berwick Salmon Fishery Company's waters. Trout have not increased in proportion with salmon and grilse. Prices have declined; on Saturday they were—salmon, 1s. 1d.; grilse, 10d.; and trout, 8d. per lb. The mackerel fishery on the coast of Cornwall has closed for the season, and the greater part of the boats have sailed for the Irish and North Sea herring fisheries. The boats are being hauled down for the summer pilchard fishery, but there is a difficulty in finding hands to man them. The herring fishery is being more generally prosecuted on the Berwickshire coast, but the takes are not large, ranging from one to six crans. On Saturday the fishing improved, and was more general. Prices are from 30s. to 40s. per cran. The Aberdeen herring fishing has had a successful commencement, the takes being much larger than at the corresponding period last year. On Saturday the average of over 40 boats was eight crans, the highest being 14. On Friday one boat had as high as 45 crans. A large number of boats has arrived from other ports, and this week a large fleet will fish. The whole strength of the fleet will not, however, be made up until about the 20th inst. Prices average 30s. per cran. The fish are somewhat small, but of excellent quality.

**THE DUBLIN PROVISION TRADE.**—The returns relating to this trade have just been made up for the half-year now terminated. The exports of the principal articles have been as follows:—1,092 bales bacon, 5,451 brls. lard, 739 tres. beef, 552 brls. pork, 81 firkins tongues, 242 casks hams, 79 casks provisions, 11,317 firkins butter, 29,111 sacks potatoes, 10,984 boxes eggs, and 13 casks and boxes cheese. The imports of provisions have been 17,461 boxes American bacon, this article showing a remarkable increase; 214 brls. lard, 210 tres. beef, 139 brls. pork, 89 firkins tongues, 892 bkts. cheese, 37 casks hams, 46 casks provisions, 118 tres. heads, and 45 tres. butter.

**THE** total exports of beef, pork, bacon, and hams, lard, butter, and cheese, from the United States in 1872, exceeded 600 millions of pound weight, of which 345,000,000 lbs. were shipped for the United Kingdom.

## MARKETS OF THE MONTH.

---

THE various changes of temperature which we have lately experienced have each to a certain extent influenced the meat market, but only for the time; prices, taking the average, remain unchanged; but as regards pork, the market has shown a firmness which may eventually produce an appreciable rise in price.

Such a season for strawberries, gooseberries, currants, and raspberries has not been known for years. Strawberries may be purchased for 12s. per bushel, gooseberries for 4s. or 5s., currants 2½d. to 3d. per lb., wholesale; raspberries 1s. 3d. to 1s. 6d. per gallon. The apple crop, as far as can be judged from present reports, is partial—good in some districts, bad in others. Pears are plentiful, and greengages and plums, like apples, will on the average be a fair crop. Wall fruit is almost a complete failure. The usual sales of West Indian pines have commenced, but first arrivals were green, and made high prices; the best time for making purchases for preserving will be in the course of the next few weeks. The arrivals of pines are later than usual this year, and one cargo has, unfortunately, gone to the bottom of the sea. The price of the last sales averaged from 1s. to 1s. 4d. per lb.

Fresh butter is very dear, 1s. 4d. to 1s. 8d. per lb., salted butters are making better prices, the latest quotations of the Cork butter market are, "ordinary firsts, 113s.; seconds, 108s.; thirds, 97s.; fourths, 90s.; fifths, 82s.; sixths, 46s.; mild cured firsts, 118s.; seconds, 114s.; thirds, 101s. In market, 2,840 firkins."

For coffee and tea there has been a good demand.

Coal still remains terribly dear, top price for house coal is 30s., lowest, 28s., other kinds, from 27s. to 28s.

The corn market is dull; if the weather continues favourable for the maturing of the crops, we may look for a reduction in the price of flour, I think, before long, but a considerable quantity of wet weather or thunderstorms, accompanied by heavy showers, will lay the crops, and work havoc with the harvest of 1873. Large supplies of both English and Foreign potatoes have been on sale; prices now are for foreign kidneys, 10s. to 12s. per cwt., round, 9s. to 12s.; English kinds, 7s. 6d. to 10s.

The fish market is now well supplied; salmon, small, 1s., large, 1s. 3d. per lb.; soles rather dear, whittings plentiful, smelts just

coming into season, from 1s. 6d. to 3s. per score ; other kinds are mullet, John Dories, plaice, eels, trout, brill, turbot, etc.

The poultry market is well supplied, but prices rule high ; good chickens, from 2s. 3d. to 3s. 6d. ; pullets, from 3s. 9d. to 4s. 6d. ; ducks, 2s. 3d. to 3s. ; geese, 7s. 6d. to 10s. 6d. ; leverets, 4s. 6d. to 7s. 6d. The delicacies of the season are turkey poults and quails. Pigeons are plentiful, price from 9d. to 1s. ; rabbits 1s. to 1s. 6d. Eggs are becoming slightly dearer, price 9s. to 11s. per hundred. Covent garden has now an abundant variety of vegetables ; walnuts for pickling are scarce, but they are much more plentiful than they were last year.

We have the choice between peas, French beans, broad beans, cabbages, cauliflowers, turnips, carrots, onions, vegetable marrows, cucumbers, salads, and artichokes, besides which early celery is procurable ; and also delicious tomatoes from France at 2s. 6d. to 3s. per box. Peas are especially abundant and cheap, and there are other vegetables not mentioned. Forced pines are making 7s. to 9s. per lb. ; grapes, black, from 3s. to 6s., white, from 6s. to 8s., Jersey, in baskets about 13 lb. each, at 2s. 3d. to 2s. 9d. per lb. ; peaches and nectarines, 1s. 3d. to 2s. each ; melons, 5s. to 6s. each ; cherries at any price, according to quality, are very plentiful ; greengage plums and apricots from France are to be obtained in small boxes ; Jargonell pears, 10s. per case ; French melons, 2s. to 3s. each ; Portugal onions, very bold and good, 12s. to 13s. 6d. per case ; Messina lemons, as landed, 27s. to 36s. per case ; oranges, Villa Real, as landed, 45s. to 50s. per case ; Barcelona nuts, 18s. ; Spanish, 16s. ; new Brazils, 24s. ; almonds, 20s. to 22s., per bushel ; cocoa nuts, 28s. to 32s. per 100.

July 21st, 1873.

P. L. H.

THE PRICE OF COAL.—The *Hour* asks, "What prospect can be held out for lower prices ? It is obvious that the price of coal will not fall unless the demand is overtaken by the supply ; it is equally clear that this result can only follow a reduced consumption or an increased production. It is certain that there is room for economy ; indeed, greater care has already been used in consequence of the increased price. But the adoption of economical contrivances to save fuel is always a slow process ; any little effect which may in this way be exerted on the demand will be more than counteracted by the increased requirements of a greater population and an expanded trade. If the sole hope of reducing the consumption lies in the realisation of conditions which would become more deplorable than dear coal, our only chance of obtaining cheaper coal consists in the increase of the supply. But the supply can only be raised by opening out new mines, or increasing the production of the existing workings. Both of these results will, in all probability, take place."

NOTES OF THE MONTH.

---

MR. CLAYTON, of London, has invented a machine for tearing peat to pieces, or, as he phrases it, *masticating* it, so that when mixed with water the whole becomes a pulpy mass. By this means he gets quit of the water which still remains in the best dried peat according to the ordinary process of drying, and which much diminishes its heat-producing power. The peat reduced to a pulp is afterwards formed into small blocks, and dried in a shed by the mere action of the atmosphere. The drying is very speedily accomplished at any season of the year, much more speedily than that of ordinary *peats* in the most favourable weather; and it is only in dry summers, when the weather is very favourable, that really good well-dried peat can be obtained in the ordinary way by those who in various parts of the United Kingdom, but chiefly in Ireland and Scotland, mainly depend upon it for fuel. The *peat-fuel* produced by Mr. Clayton's process is very superior in calorific power to ordinary peat. However, two tons of it are requisite where one ton of coal would suffice; but it is expected that it will be found possible to produce it so cheaply that, in point of economy, its use will be very advantageous. If so, we have before us, in near prospect, a complete and happy deliverance from the arbitrary power of coal-proprietors and of colliers; a new industry would also spring up, giving employment to great numbers of people, and that in parts of the country in which hitherto there has been no employment for any except in the labours of agriculture and the care of cattle and sheep; and in addition to all this we might expect to see bogs rapidly reclaimed, the surface now occupied by them converted into excellent arable land, and the climate ameliorated—on which bogs unquestionably exercise a most injurious influence. From a letter by Mr. Richardson, secretary of the Geological Society of Edinburgh, to the editor of the *Edinburgh Courier*, we learn that several companies have been formed for the utilisation of peat according to Mr. Clayton's process. There are two companies in Dumfries, the "Dumfries Peat-Fuel Company, Limited," with a capital of 50,000*l.*, in 2*l.* shares; and the "South of Scotland Peat-Fuel Company, Limited," having a capital of 50,000*l.*, in 1*l.* shares. It is expected that several of Mr. Clayton's machines will soon be in operation in the bogs near Dumfries. Some influential gentlemen in Inverness-shire have begun to take steps for the introduction of the peat-fuel manufacture into that

county, a large extent of the surface of which is covered with bogs. A company called the "Kerry Peat-Fuel Company, Limited," has been formed in the County of Kerry, of which Mr. Herbert, M.P., and Mr. Donovan, High Sheriff, are the leading promoters. There is a prospect also of the formation of a company in Dunfermline, for the manufacture of a kind of fuel, of which peat, pulped by Clayton's process, forms the principal part, but it is mixed with pulverised gas pitch, hitherto a mere waste substance. The "Anglo-Swedish Peat Ball Company, Limited," proposes to produce a fuel according to the "Peat Ball" or "Kugel Torf" process invented by Eichhorn. This company has a capital of 200,000*l.* in 5*l.* shares, and its operations are intended to be carried on both in Sweden and in England, an extension of sphere not very likely to be attended with advantage.

---

THE Analyst of the parish of Marylebone having furnished to the vestry a report in accordance with the provisions of the Adulteration Act, a discussion arose as to whether any proceedings should be taken upon it, the ground of objection being that the tradesmen of the parish had received no notices. In the course of the discussion it was suggested that a prosecution should be instituted against a person who had sold "full flavoured port" at two shillings, a proposition which was met by the counter one that the prosecution should be directed against "the manufacturer who put logwood and muriatic acid into port wine, and not the tradesman to whom the mixture was sold." Upon this point one of the speakers remarked, "that if tradesmen were to be prosecuted for selling adulterated articles they would cease to buy them." It was finally arranged that the defaulters should be warned, and the subject referred to the Sanitary Committee.

---

By way of meeting the difficulties besetting the vendors of butter and other articles of food, a grocer suggests to the trade, that as getting articles analysed would consume all the profits, it is desirable that in each shop a show-card should be conspicuously hung thus inscribed:—"To meet the requirements of the Food Adulteration Act, all articles of food sold in this establishment will be of the usual good quality, but none are warranted genuine." Referring to the Liverpool case, to which notice was directed in the July number of this journal, the writer goes on to say that as the case in question is "likely to be a basis of pro-

secution, a general subscription should be made throughout the kingdom for the purpose of employing the ablest counsel." It is doubtful what course the trade may be disposed to take as regards this proposal; but it is scarcely likely that it will entertain the humorous idea suggested of the show-card—"hung in a conspicuous part of the shop."

---

THE City magistrates are to be applauded for their often expressed determination to put an end to the sale of food unfit for human consumption. No half measures are taken, but an offender may think himself fortunate if he escape with a heavy fine and costs. In a recent case it appears that the carcase of a cow which had been suffering from hip disease, was dressed and sent up to the London market for sale, but being consigned to a respectable firm, attention was directed to it, and an opinion expressed by the presiding magistrate at the Guildhall, that a prosecution should be instituted. At the hearing of the summons some evidence was given on behalf of the defendant, who is in good circumstances, but without avail, and, Sir Thomas Dakin remarking that fines had been tried without effect, imposed a sentence of one month's imprisonment without the option of a fine, a decision which appeared to astound the defendant. It is reasonable to hope that with such examples before them as the present, the evildoers will be induced to reflect upon the inconvenience which may attend their mal-practices.

---

A LONG letter has appeared in a contemporary bearing upon the important question of tea adulteration, in which the writers furnish the text of a handbill, which they suggest should be used for the guidance of attendants at the counter. The idea appears a reasonable one, being intended to prevent errors arising as to the identity of any articles submitted to analysis and subsequently declared to have been adulterated. It is suggested that the analytical officer purchasing articles shall be detained until "another pound" has been "wrapped up from the same package and sealed." The assistant is to "demand this of him, and note well his answer." It is also deemed necessary that he shall "at once seal up all the remaining portion in the vessel out of which the *informer* was served." The Adulteration Act expressly stipulates that the officer purchasing anything intended for analysis and subsequently made the subject of legal proceedings, shall satisfy the court "that the article of food or drink or drugs alleged to be

adulterated was delivered to the analyst in the same condition as regards its purity or impurity as it was when received from the seller." Nothing has yet transpired that would lead to the belief that this stipulation is not generally complied with; at the same time no objection can be offered to the action of those engaged in trades coming within the operation of the Act, such action having in view nothing more than to guard against possible errors on the part of those entrusted with duties demanding extreme care and unexceptionable integrity.

---

THE recent decision of the judges in the Liverpool butter case appears not to have been without effect, one of the metropolitan magistrates having recently decided that mustard mixed with turmeric and flour, although not injurious to health, cannot be sold without rendering the vendor liable to a penalty under the third section of the Adulteration Act of last year. The particulars of the case which was under enquiry were as follows:—A quantity of mustard had been purchased at the shop of a grocer in Lambeth, at the rate of one penny per ounce, the inspector making the purchase remarking that he intended to have the sample analysed. This was done by Dr. Muter, who declared the mustard to be mixed with turmeric and flour, but added that it was not injurious to health. The defence was that cheap mustard was always mixed, that the public did not like the genuine article, and that the defendant generally labelled goods of this description "This article is sold free from any injurious mixture." A fine of forty shillings with costs was imposed; indeed it should by this time be very generally understood that adulterated articles can only be sold upon condition that the fact of their being so is expressly declared prior to sale. This, it will be remembered, was the view adopted by the Queen's Bench in the case above mentioned.

---

The *Globe* reminds us that with the report of the cholera at Vienna, our sanitary inspectors ought to exercise a special care and supervision in the performance of their duties during the summer months. The fruit, for instance, sold in the streets and in the market should be carefully looked after. Job lots, both of strawberries and cherries, may be seen, in every stage of decay, hawked round poor neighbourhoods; and it would seem as if there was no real check given to this traffic at the depôt centres at which it is initiated. It



should be understood that the fruit does not get bad from lying on the costermongers' hands over time, but is in the first instance bought as damaged, and is often, in fact, quite unfit for food when purchased by the street dealers. Fruit sellers of a dear, if not scrupulous class, are also in the habit of parting with their back stock to the itinerant vendors, who speculate in it to a considerable extent. The places, however, to be watched by the authorities are the wholesale markets. The same remark applies to fish. The public may always be excused for being uncomfortable in these matters when reports of "seizures" altogether disappear from the papers. The officers entrusted with the duty of inspection appear to do their work in much the same fashion as that in which the police make descents upon betting men. The raids are intermittent and spasmodic, and occur at long intervals. As a matter of fact there must at the present moment be an enormous amount of decayed and absolutely poisonous fruit sold in London, but not a single instance of interference or repression in that direction has been mentioned since the commencement of the fruit season.

---

THE Select Committee appointed to enquire into the operation of the Game Laws has issued its report, and should the recommendations it contains be followed by legislation of the character indicated, it is reasonable to hope that the rabbit will cease to be the *bête noire* of tenants in agricultural districts. Besides recommending the exclusion of rabbits from all Game Acts, the Committee propose the assimilation of the law of England to that of Scotland, so as to secure a right of action to tenants in case of the increase of game during their terms of occupancy. It is further proposed that disputes arising out of damage committed by game shall be submitted to arbitration, cases not settled out of court being referred to the sheriffs in Scotland, and to the county court judges in England, from whose decision there is to be no appeal. Perhaps the most important suggestions are those dealing with the questions of property in game and the rating of land used for game preservation. As regards the first of these it is recommended that although game itself should not be regarded as property, yet that eggs of game should be considered as belonging to the owner of the soil, in which case the taking of them would constitute a larceny. With respect to the second of these questions the Committee recommend the rating of preserves. It is scarcely to be expected that this report will meet with general approval, but if its

recommendations are acted upon by the legislature, the worst features of the existing game laws will disappear, and with them possibly much of the discontent and agitation which they have engendered.

---

THE idea "How to live on sixpence a day," seems impracticable enough in these days of high prices; but an enthusiast named Isaac Smalls, of Eurenwick, near Wakefield, informs the Dietetic Reformer "how he manages to live on sixpence a week." Thus he says—"I have the advantage of living near a mill, and from the miller I buy the refuse of his flour, for which I pay fourpence a week. This is the staple of my food. I make of this my own bread; the salt, yeast, etc., costing next to nothing. I vary this meal with occasional apple dumplings, being able to buy about a dozen apples (wind falls) for a penny; and, as a luxury which I allow myself on Sundays, I buy a pennyworth of lard now and then. This amounts to sixpence a week. My drink is pure water." Mr. Smalls will surely forgive the sceptical if they do not accept without hesitation his assertion that he has "lived on that diet for nearly twenty years," and is "in excellent health." Some sympathy may be felt for the Irishman who, being reduced to a single penny, devoted it to the purchase of a salted herring, the eating of which, necessitating afterwards frequent visits to the pump for the purpose of quenching the thirst provoked, was indirectly the means by which he, as he boasted, managed to get "a bellyful;" but it would probably be considered offensive to offer sympathy to a man who glories in living a whole week upon four pennyworth of refuse flour, and a dozen of windfall apples.

---

THE VIRTUES OF WHISKY.—The following curious extract from Hollinshed's *Chronicles*, 1577, will be of interest to the advocates of whisky as a therapeutical agent of great power:—"There is used an ordinary drinke of *aque vite*, so qualified in the making that it dryeth more and inflameth lesse than other hote confections. One Theoricus (*Episc. Hermenensis juxta Bononiam*) wrote a proper treatise of *Aque Vite*, wherein he prayseth it to the ninth degree. He distinguisheth three sortes thereof—*simplex*, *composita*, and *perfectissima*. . . . *Being moderately taken*, sayeth he, it sloweth age; it strengtheneth youthe; it helpeth digestion; it cutteth fleume; it abandoneth melancholie; it reliseth the harte; it lighteneth the mynd; it quickneth the spirites; it cureth the hydropsie; it healeth the strangury; it pounceth the stone; it repelleth grauel; it puffeth awaie ventositie; it kypeth and preserveth the hed from whyrlyng—the eyes from dazelyng—the tongue from lispyng—the mouthe from snafflyng—the teethe from chatteryng—the throte from ratlyng—the weasan from stieflyng—the stomache from wamblyng—the harte from swellng—the bellie from wirtchyng—the guts from rumblyng—the hands from shiueryng—the sinowes from shrinkyng—the veynes from crumplyng—the bones from akyng—the marrow from soaking . . . . *And trulie it is a souveraigne liquor, if it be orderlie taken.*"—*Brit. Med. Jour.*

## DOMESTIC RECIPES.

---

*The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.*

---

### MY GRANDMOTHER'S RECIPES.

#### TO PICKLE WALNUTS.

Take the walnuts when they are young enough for a pin to run through them ; lay them in water 10 days, shifting them twice a day ; then take a bodkin and run through them, and put them in water for two or three days, and shift the water three times a day ; then drain them through a cullender and let them stand dry six or seven hours, not altering them ; lay them in the pickle.

---

#### TO MAKE THE PICKLE.

Take as much vinegar as will cover the walnuts, and a large handful of salt, whole cloves, pepper and ginger ; boil it up, and let it stand till it is cold ; then put your walnuts into a pot, and pour your pickle over them ; tie them up close, and in three or four months they will be fit for use.

---

#### CALVES FEET JELLY.

Boil 4 calves feet in water sufficient to cover them ; let them stand one night ; then take off all the fat ; melt the jelly again and put to it the juice of three lemons and the peel of one grated ; wine and sugar to your taste ; mix them together ; then take the whites of 4 eggs ; put to them a spoonful or two of the jelly ; beat them very much ; pour them into the jelly and keep it stirring ; let it boil two or three minutes ; take it off the fire ; let it stand to settle ; then pour it through your bag repeatedly till quite clear.

---

#### TO MAKE TEN GALLONS OF GINGER WINE.

Take 35 quarts of water, wine measure, 26 lbs. of lump sugar, 8 ozs. of white ginger, the whites of three eggs, well beaten ; boil slowly for one hour, skimming all the time ; then put it into a tub, and when nearly cold put in your peel, thinly pared, of 36 lemons and 9 oranges, with five spoonfuls of good yeast, and let it work in the tub three days ; when you tun it put in the juice of the oranges and lemons, but do not let the peel go into the barrel, and when it has done working put to it 2 quarts of the best brandy ; stop it close and let it stand till fine, at least two or three months, if longer the better, before you bottle it ; should your oranges and lemons be small add a few more ; you must be careful that none of the pith is taken off with the peel, as it will give a bitter taste.

---

*\*\* Every communication intended for insertion in the "Food Journal," should bear the name and address of the contributor, not necessarily for publication, but as a guarantee of good faith.*

# THE FOOD JOURNAL.

---

## FOOD SUPPLIES AND IRRIGATION.

---

THE history of the world from one point of view is but a history of the rise and fall of nations—the development of the resources and the exhaustion of the riches of countries; at one time rising to the highest pinnacle of wealth, and at another falling into a position of dependence. With the increased facilities of communication now at command not only are such fluctuations of prosperity scarcely probable, but the rapid increase of population in every quarter causes greater and more urgent demands upon the produce of every soil, and is gradually leading to the cultivation anew of lands which have for centuries past remained barren and waste. Instead, then, of countries waning in their prosperity, the working of all lands up to their natural powers of productiveness is gradually taking place, tending to the development of such a combined amount of wealth as the world has never previously witnessed. It is of course desirable that each nation should, so far as may be practicable, grow its own food supplies. This is easy enough where the population is small in proportion to the area of a country. But where the opposite prevails, a high state of cultivation is required in order to make the land yield heavier and a greater number of crops than it will do in its natural state; and this is all the more requisite, for where population is in excess, and land consequently dear, larger returns per acre are necessary in order that the cultivation of the soil may become a profitable undertaking.

However highly land may be enriched by ordinary or artificial manures, moisture is absolutely necessary in order to bring the crops to maturity. It is true that wheat and some other grain crops will flourish in this country with an extraordinarily small amount of rain-fall, as occurred in the season of 1870, but wheat constitutes only a small portion of our food supplies, and it is also

perhaps the very one which is most easily supplemented by importation from abroad. It is, however, the abundant provision of animal food which is the most important question to be considered, and this is entirely dependent, so far as home production is concerned, upon a good hay harvest and an abundant root crop, in the absence of which keep becomes scarce, and cattle are hastily sold off at an early season, and often when they are scarcely in a fit state for the purposes of meat supplies.

The throwing of a large quantity of stock suddenly upon the market, at a season of the year when the consumption of animal food is least, may have the effect of temporarily reducing prices, but it is invariably followed by a sudden and serious rise in the value of meat during the winter and spring months. The connection between the various food markets is also so intimate that an extraordinary increase in price in one is almost sure to be communicated in a greater or less degree to the others, thus causing a general dearness in all classes of provisions. The great economic question for consideration is, therefore, how to ensure ourselves against the failure of those crops which constitute in reality our principal sources of food.

The fertilising effects of water are far in excess of what is generally believed. Whilst credit is as a rule given to various descriptions of manure for restoring the exhausted energies of land after a crop, it is too often forgotten that manure can be of but little or no value unless assisted by water, which invariably forms the medium whereby the useful chemical properties that alone stimulate growth are conveyed from the manurial basis, whatever it may be, to the earth, and from the earth are communicated to the plant. It has been often, but erroneously, assumed by persons not fully conversant with the effects produced by irrigation, that too large a quantity of water thrown over the land must tend to wash away the nutritious properties contained in the soil, more especially if they have been introduced artificially with manure. This argument has been relied upon to a great extent by the opponents of sewage irrigation. A few moments' reflection will, however, soon dispel any such fallacious impression. The annals of Eastern countries such as India, China, Egypt, and in Europe, of France, Italy, and Spain, contain abundant evidences of the fertile properties of water. In parts of Scinde, along the banks of the Indus, sandy wastes have been converted into rich gardens merely by the application of water in sufficient quantity to the soil, and similar enrichment by the means of water alone has been witnessed in all countries where irrigation has hitherto extended

If, then, water by itself can add to the productiveness of land, it is, to say the least, somewhat paradoxical to assert that it can impoverish the soil.

In saying this, it must be borne in mind that we refer only to lands properly prepared for irrigation—that is to say, laid out and thoroughly drained; for it is a well known fact that if water be allowed to stagnate on land, it is at once rendered quite unfit for agricultural purposes. The effect of water upon the fertility of land is dependent upon a chemical combination which is entirely distinct from any mechanical action, and hence the superiority of rain over spring water for irrigation purposes, for the latter having already been in contact with one or other of the various kinds of earth, has parted with its fertilising elements and absorbed other properties not of the same agricultural value, according to the nature of the stratum from whence it has been drawn. By long exposure to the atmosphere, however, several of its former useful properties are recovered. Hence it is found that rain is the best fertiliser of all water; next comes that taken from rivers and streams, and lastly spring water.

It may perhaps, and not without some reason, be asked, How is it that irrigation should be considered necessary now in England when we have done so well without it heretofore? In order to answer this question fully and satisfactorily, it will be necessary to consider for a moment what has led to the introduction of irrigation in other countries. Of ancient works of this character little is known, but the earliest were evidently wells for the simple storage of water. These were probably first constructed in places distant from rivers, and their necessity before the introduction of pumps can be well understood. Then followed wells supplied by springs, tanks for the storage of water in convenient localities on the surface of the ground, and lastly canals. These latter were evidently first constructed with the view of conveying water by means of gravitation to localities away from the immediate vicinity of streams, and there appears to be no small probability that artificial water channels were first introduced for the purpose of watering the gardens attached to Kings' palaces and to the residences of wealthy and powerful nobles. Circumstances have, however, considerably altered since the time when irrigation canals were used as luxuries; they are now necessities, and in connection with them another important measure is the storage of water.

Trees have a very important effect upon rain, and any undue destruction of forests has always been followed by a diminution in the amount of rainfall. In former years, before forestry was

cultivated as a science, the timber-growing lands were quickly cleared and their products used as fuel. Not only did this policy result in a reduced amount of rainfall, but the removal of the roots of trees which facilitate the passage of rain into the ground, and the destruction of brush and low growing bushes which flourish under the shade of forests and woods, and which also prevent water from flowing away over the surface of the ground, have naturally tended to reverse an important provision of nature, and the rain as it falls rushes directly into rivers, causing floods at one season of the year, and drought at another.

Although England, owing to her vast resources of fuel in the shape of coal, has not similarly disturbed the influence on rainfall due to the proportionate extent of her forest districts, she has nevertheless, by deep and thorough draining of cultivated lands, done much towards destroying the natural flow of water through the soil towards rivers and streams, thus causing, similarly with forest destruction, a tendency towards violent and sudden fluctuations in their volume. In navigable rivers this is partly remedied by the construction of weirs and locks which convert them actually into a succession of ponds whose depth is regulated by the height of the sluices at each weir. This, however, is barely sufficient for the purpose, and in order to retain the excess supplies which fall at one season, for use in times of deficient rain or drought, reservoirs should be enclosed within the water-shed of every river, the contents of which will serve to supplement the stream whenever necessary.

Thus, then, does ordinary land drainage affect the natural distribution of rainfall water, and it is a question yet to be determined whether the diminished amount of evaporation from the surface of the soil may not have some influence upon rainfall itself by disturbing the laws of Nature in a manner not altogether dissimilar to the reckless destruction of forests, and necessitating resort to artificial means in order to restore the desired equilibrium. With the foregoing brief explanation as to the necessity for artificial irrigation, we may now proceed to notice more particularly its effects upon crop cultivation.

No one can have failed to notice the richness of pastures situated in valleys, and more particularly such as lie on the banks of streams. It is impossible to mistake the cause which leads to such meadows being so much richer in their produce than the pasture of lands situated on hill sides or at high elevations, and it is simply owing to the greater amount of moisture upon the former than is enjoyed by the latter. No further argument than is supplied by

nature seems necessary to prove the fertilising property of water when applied to grass lands; and as grass, either fresh or in the form of hay, constitutes the principal food for our cattle, it follows that by promoting its more prolific growth we are practically adding to the means of supplying an increased amount of animal food. Where water can be obtained readily and brought to the spot by gravitation nothing can be more easy or beneficial than simple irrigation. Sometimes, however, lands lying beyond the reach of water by such simple means may be irrigated with the assistance of an engine for raising the water to a sufficient height, and this, as it flows off through the irrigation channels, may again be made to irrigate land at a lower level, and so on, until the bottom of the valley is reached and the effluent water discharges itself into some natural stream.

If water is thus abundantly beneficial to grass, it is so to a much greater extent to root crops which depend for their very existence upon a certain amount of rainfall, and in seasons of drought it is no uncommon thing to see whole fields of turnips, worzel, and beet ploughed up in consequence of a total failure of the crops. If irrigation were available this could never occur, and the additional security thus afforded could not but have a beneficial effect upon the food supplies of this country.

But it may be asked, By what agency should the necessary works for this purpose be conducted? It is clear they could not very well be entrusted to the agency of public companies, and private individuals would too often lack the means of constructing them. Neither could it be expected that they should be undertaken by Government. As great public improvements, however, tending directly to the increase of the national wealth, facilities might be afforded by Government either in the way of granting loans or by empowering holders of a certain extent of land, suitably situated for the construction and development of irrigation works, to borrow money upon the security of their property to be laid out under proper professional advice and supervision. For this purpose it would be necessary that a special Act should be passed in order that two or more holders of land might join together for united action. We are not aware that any English Act of Parliament could be taken as a model of what would be here required, but one might very well be based upon the Spanish "*Ley del Agua*," under which irrigation works are permitted to be carried out in Spain, and which is the most perfect and comprehensive enactment on the subject ever yet passed in any country.

F. C. D



## THE CULTURE OF THE OLIVE IN AUSTRALIA.

---

AUSTRALIA is one of the most satisfactory of the British possessions, a strong feeling of loyalty exists among its population, and being peopled from the old country, the institutions of the colony are so far as possible copies of our own. Besides the English habits of the colonists they retain a large share of the energy and perseverance characteristic of the Briton. These facts, together with the fertility of the soil, the natural resources of the country, and the salubrity of the climate, indicate a great commercial prosperity for Australia. Hitherto the distance and consequent heavy charges for freight have seriously impeded the general introduction of the more weighty of the indigenous products. One great step, however, has of late been made in the importation, as a recognised article of trade, of preserved meat, and in a country where the land is suitable for the cultivation of many foreign plants, we are led to expect that it will ultimately largely increase our supplies in many commodities at present unknown to Australian cultivators. The colonists have been amongst the foremost in conducting experiments in the acclimatisation both of useful plants and of animals, and a feeling of satisfaction for the past and hope for future progress prevails amongst them. The Press of the colony speaks favourably of her doings, and it has prophesied that "Wool, tallow, dairy produce, wine, oil, dried and preserved fruits, hides and skins, will in the future prove staple articles of Australian export to the markets of the Old World." Much interest is now being taken both in South and West Australia in the cultivation of the olive (*Olea europæa*). This valuable tree is supposed by some authors to have belonged originally to Western Asia, from whence it is said to have spread into Southern Europe and Northern Africa, but whether it was originally native, both of Europe and Asia, or of Asia alone, the fact remains that it is now largely grown for the sake of its fruit, as a commercial article, in Italy, Spain, Southern France, and other parts of the South of Europe, as well as in Northern Africa and Western Asia. The tree is of very slow growth and seldom attains a greater height than 20 feet. It lives to a very great age, indeed some of the trees at present existing in the vale of Gethsemane are said to be nearly coeval with the Christian era. Two distinct varieties of the olive are known, the

wild or original form, whose branches are somewhat four-sided and armed with spines, and whose fruit is so small that it is valueless; and the cultivated, which has unarmed branches and fleshy fruits varying considerably in size, form, and colour.

The commercial importance of the olive tree lies in its fruits, which are used for pickling, but more particularly for the expression of the valuable sweet oil known as Olive Oil. This is procured from the flesh or pulpy part of the fruit, which is bruised and removed from the kernels without breaking them, the pulpy mass is then put into bags and submitted to heavy pressure from a screw press; the oil so obtained is of the finest quality, and is called "Virgin Oil." The residuum or *marc*, after this first oil has been expressed, is moistened with hot water, and again submitted to pressure, when a second quality of oil is produced, and a third is obtained by crushing the cake, kernels included, boiling it and again pressing it.

The value of olive oil and the extent of its consumption is so well known to our readers that no question can exist as to the policy of the Australian planters in cultivating the olive. In the South of Europe, where olives are largely grown, indeed all over Continental Europe, the oil forms an important ingredient in the preparation of food. With us its use as a culinary article is too limited, but large quantities are consumed both in cooking and in the arts and manufactures.

The following brief abstract of an article on the culture of the olive in Australia, which appeared in a recent issue of a colonial paper, will make our readers better acquainted with the prospects of Australian olive oil. The plant is correctly stated as being easily propagated, and from its hardy, drought-resisting nature, the ease with which it can be grown, and the small amount of skill and labour required in its cultivation, and in the manufacture of its products, it seems specially adapted to the circumstances of the colony as well as to its soil and climate. As a shelter-plant to break the strong winds, and for planting around dwellings in the country, and giving to them that air of snugness so often painfully lacking in the appearance of bush houses, few plants equal and none excel the olive. The habit of growth is sturdy and compact, the form and colour pleasing to the eye, and in addition to these desirable qualities, the fruit is profitable, so that in this ancient friend of man the useful and ornamental are combined. Taking these facts into consideration, there seems no reason why the roadsides of civilised Australia should not be lined with olive trees, but on the contrary, there is every reason why they should, as in the fulness of time no doubt they will be.

It is desirable in growing the olive to secure the very best varieties, but if this cannot be done at once it should not deter any one from propagating such as may be available. The plants can afterwards, when fully established, be grafted with the best varieties, and these will be forthcoming in due time, now that greater attention is being directed to the cultivation of the olive as a source of future profitable industry. That in the course of time, when the necessary care and attention are devoted to the cultivation of the plant, and the fruit becomes plentiful, it will prove a profitable industry there can be no doubt. With the increase of machinery the demand for oil increases, and in fact the market for it is practically unlimited. In South Australia from the fruit of trees twenty years old an annual yield of ten gallons of oil per tree has been obtained, which, at 6s. per gallon, gives 3l. per tree as the value of the produce. True, the olive cannot be regarded as a source of immediate profit. It requires time before it will bear fruit. Some planted eleven years ago in West Australia are now coming into bearing; but although there is some little time to wait before any return can be obtained, yet it should be borne in mind that the olive tree is of a very enduring character, and with age increases in value. These characteristics have given rise to the Italian adage: "He who wants to leave a lasting inheritance to his children should plant olives." Let us hope there are many in the colony actuated by this laudable desire; and that with a view of accomplishing it the cultivation of the olive will receive that due share of attention to which on its sterling merits it is justly entitled.

JOHN R. JACKSON, A.L.S.

---

A REMARKABLE car has just crossed the United States from east to west, under the superintendence of the Fish Commissioner. The car was prepared specially for the transportation of live fish across the continent, and is fitted up with tanks, so shaped as to retain the water and the fish in spite of any amount of shaking and splashing. In these tanks are distributed, according to their habits, the fish of the eastern waters to be colonised in California. The list includes full-grown black bass, breeding cat-fish, full-grown yellow perch, full-grown horn pout, glass-eyed pike, breeding eels, tautogs, striped bass, yearling perch, large lobsters, one barrel of young (selected) oysters, besides 100,000 Hudson River shad, and somewhat less than 100,000 small eels. There was a large quantity of sea water on board for the benefit of the lobsters, oysters, and tautogs. The list includes eleven varieties of fish not native to California.

## INFANT MORTALITY AND INFANTS' DIET.

---

THE opinions which have been expressed and facts which have come to light since the appearance of the paper on Infant Mortality, in the March number of this journal, p. 50, show that so far from there being any improbability in the suggestion that over 40,000 children under one year of age die annually in England (Scotland and Ireland excluded) of diseases produced by improper diet usually given to them by mistake, or through ignorance (*i. e.* not of necessity), it is very probable that this large amount of mortality is short of the actual number.\* The following are some of the statements since made on the subject :—

Dr. James Edmunds, of Fitzroy Square, late Senior Physician to the British Lying-In Hospital, writes, April 26th, "I have read your paper on Infant Mortality as caused by improper feeding, and, from my own experience, can endorse all you say;" and, subsequently, Dr. E. T. Wilson, of Cheltenham, "I read your paper on Infant Mortality, and quite agree with your conclusions as to mother's milk, the natural food of children." Dr. Alfred Carpenter, of Croydon, delivered a lecture at the National Health Society, in May last, in which he stated that "Farinaceous food is especially liable to lactic fermentation, without giving out the evidence of change which milk affords, and the result is that the stomach fills with gaseous products which often bring an early end to the infant's miseries by inducing a fit of convulsions, an end rendered still more certain by the binder which prevents distention. If convulsions are or are not induced, a diarrhoea sometimes arises. Diarrhoea is especially fatal in the hot months of the year, and in the majority of instances is the result of improper feeding. Inquiries have been instituted by various individuals, which prove that at least 90 per cent. of the children which are put out to dry-nurse by wet-nurses die after a few weeks of hand-feeding. For several months I caused inquiries to be made as to the method of feeding hand-fed children in the parish of Croydon, and a very large proportion of the fatal cases resulted from diarrhoea and

---

\* Over 40,000 is calculated as the excess of mortality from improper feeding in only two diseases, viz., convulsions and diarrhoea; beside these, other complaints, sometimes fatal, are produced by improper feeding.

convulsion." He also stated that "The majority of mothers who wet-nurse their children are probably not aware of the cost"—*i.e.*, the probable death of a neighbour's child. "If they are, it requires some stretch of conscience and a forgetfulness of the golden rule of life, viz., 'to do as you would be done by,' to deliberately destroy a neighbour's child that they may be enabled to enjoy the so-called pleasures of life and shine, as it is called, in society for a brief period, whilst they neglect the greatest privilege that Providence can accord to them. Whatever may be a woman's rights" (Dr. C. is an advocate for female suffrage), "putting a child to wet-nurse is not one of them, provided the mother has provision of her own for its sustenance."

With regard to infants' diet, in a pamphlet recently published by the Obstetrical Society of London,\* it is stated that:—

"Provided the mother or wet-nurse has plenty of milk and is in good health, the infant requires, and should have, no other food but the breast-milk until about the sixth month.

"When the mother has not milk enough to nourish the child other food may be given, especially during the night. This should consist of the best milk, with one-third the quantity of warm water added.

"After the child has cut its front teeth it should have one or two meals a day of some light food, such as bread and milk or nursery biscuits, gradually increased until the child is weaned.

"Meat, potatoes, and food, such as grown-up people eat, are often given to young infants; this kind of food, and all stimulants, are entirely unsuitable, and are common causes of diarrhoea and other troubles."

With reference to hand-feeding it is stated that:—

"If the infant must be brought up by hand, the chief rule to remember is that the food should resemble, as closely as possible, the milk provided for it by nature.

"Milk, and milk only, should be used for this purpose; asses' or goats' milk is best, but cows' milk will in general do sufficiently well.

"Two-thirds of pure and fresh milk, with one-third the quantity of hot water added to it, the whole being slightly sweetened should be used.

"Milk diet alone should, as a rule, be given until the child begins to cut its teeth, when other food may be gradually commenced as before recommended. When milk is found to disagree other food should be given under medical advice.

"Most of the mortality from hand-feeding arises from the use of arrow-root, corn-flour, and other unsuitable kinds of food which consist of starch alone, contain no proper nourishment, and should not be used as substitutes for milk."

---

\* "Rules for the General Management of Infants recommended by the Obstetrical Society of London, being drawn up by their Committee." Longmans and Co., London. This is a very inexpensive work of few pages, written expressly for mothers and nurses, and as a medical man has not time to communicate all its contents, nor could a mother well recollect them if communicated, no one should be without a copy.

Dr. Edmunds, in the letter before quoted, states that he has always directed boiling water to be added to the milk instead of warm or hot water, and this may be of some importance, because the waters supplied to London from the Thames have at no very distant time since been reported as being (at the time of the report) unfit for domestic purposes from the amount of organic impurities they contained, the Chelsea containing seven and the Lambeth eight times more than the Kent Company's, and I have no doubt the water of the wells in some country places equally deserves to be named as unfit for drinking, and is in some instances worse.

The injurious effects of organic impurities are greatly lessened by boiling, so that it will be well to direct the water to be boiled five or ten minutes before being added to the milk. He also directs that the milk and water given to infants before they cut their teeth, to supply a partial deficiency of the mother's milk, to be slightly sweetened with loaf-sugar and given from a feeding-bottle, which should be rinsed out after every meal, and that when the teeth appear it should be gradually strengthened with baked flour boiled in the water, with a little salt, before the milk is added. Perhaps he may mean a little salt instead of the sugar.

It may also deserve notice, that a lady, a distinguished sanitarian and an author, writes, March 28th: "Of the paper on Infant Mortality, I can but say that it is admirable, and accords perfectly with my own maternal experience and with all my observations of the condition of other people's infants."

B. CLARKE, F.L.S., M.R.C.S., &c.

---

HERB-FARMING NEAR LONDON.—The extensive lavender-fields at Hitchin are now very beautiful in their changing shades of colour as swept over and moved about, meadow-like, in the breeze. Lavender, too, is grown at Mitcham by the hundred acres, and peppermint occupies a still larger area; it is a three years' crop, and during the next fortnight will be harvested for purposes of distillation. Liquorice once formed a main crop in these fields; but although it is still grown in considerable quantities, it is not so extensively cultivated now as it formerly was, on account of its entirely occupying the ground for four years, and during that time requiring great attention in the way of cleaning, besides the ultimate cost of trenching out the roots, or rather underground stems. Several acres are devoted to chamomile, the double-flowered sort being preferred, on account of the weight of the produce, which is picked several times during the summer months. Sage likewise forms an important crop, and pretty remunerative it is, for the stalks are cut over, bunched, and sent to market at once. The crop is frequently renewed, and parsley is commonly grown between the rows. Of white poppies there are several acres, and these plants are now maturing their seed-heads. Acres of squirting cucumber may now also be seen in this neighbourhood, and the plants are very productive. The fruit is carefully gathered just as it begins to ripen, which it does gradually, so that the operation of gathering is repeatedly performed during the course of the year. These herbs, as a rule, are distilled by the growers on their respective establishments, and disposed of to the apothecaries in a raw yet semi-refined condition.—*The Garden.*

## FOOD AND LODGING.—A RETROSPECT.

---

WE English are not a fickle or a changeable race either in tastes, habits or sentiments. We never have been. All the efforts of all the reformers are powerless to make us exceed the *Festina lente* of a good, honest, well-to-do substantial people. This conservative spirit stamps all our social intercourse, and pervades half our national customs. We are good eaters to-day; so were our Saxon forefathers. We grumble a good deal under virtuous Victoria; they grumbled a good deal under virtuous Alfred; and so, no doubt, unless indeed we wax far more "cosmopolitan" than we seem at all likely to do, it will be to the end of the chapter. And though, perhaps, with coal at 40s. the ton, and bread at 8½d. the loaf, Paterfamilias is not likely to "rest and be thankful," in these high pressure days, he is at least in better plight than when there was little or no wheaten bread to be had, and when coal had never been dragged, hundred fathoms deep, from the lacerated bowels of mother Earth; or, later still, when—as we are informed—"while Sir Richard Whittington was yet a boy, the burning of coal was considered such a public nuisance that it was prohibited by an Act of Parliament under pain of death."

As comparisons, however odious, are not without their advantage, it may not be amiss to glance back from our own luxurious times to the more primitive days of our progenitors—far beyond the good old times—and note some of our own advantages in the item of wholesome food and eke of wholesome houses.

We are informed by those humorists the historians whom, in the absence of the more truthful novelist or the still more voracious poet, we are constrained to put faith in, that previously to that kindly invasion of our shores by Julius Cæsar, the natives of these islands were not uniform in their food and the manner in which they satisfied the cravings of natural appetite. Thus, while in the more civilised South they fed on corn, and lived in circular wooden houses with stone foundations, wearing vest and trousers with a square mantle of their own manufacture, in the Midland Counties, as we call them, agriculture was at a discount, the inhabitants living on the milk and flesh of their flocks, in rude huts of withes, and a neat garment of skins of beasts; while as we approach still nearer the canny North the lieges vegetated in woods and caves, and had no *toilettes* to speak of, and subsisted almost entirely on the

produce of the chase. Perhaps, therefore, it is to our Saxon forefathers that Englishmen should look back for the true dawn of English gastronomy and other "social institutions" embodying comfort or luxury. Indeed, any exhaustive history—not a merely cursory glance like the present—of food such as it existed and prevailed at different periods, would be very incomplete which did not dwell at considerable length on those jovial Saxon ancestors of ours. When we speak of the "tables groaning" we are undoubtedly indebted to the plentiful good cheer of those mighty eaters with their four substantial meals a day. That we are their true and lineal descendants let no man doubt, seeing that just as in this nineteenth century we can undertake no good work without celebrating the occasion by a dinner, so they never held a public meeting without a jollification of some sort; not only that, whenever, and so long as the *Witan*, or parliament, held and continued its sittings, the king—bless him!—invariably feasted the whole assembly.

As to *what* these stalwart gormandising forefathers of our still sturdy race consumed, it must, perforce, be admitted that they were not over nice so there was plenty of it. They had broths and soups flavoured with herbs. Colewort was the general vegetable; wheaten bread for the very richest, bread made of barley or beans for the *οἱ πολλοί*; and for meat by far the most common, especially in the winter months, was the flesh of swine. In that charming novel *Ivanhoe*, we read indeed of a Saxon banquet in which both plenty and variety reigned, when Cedric entertained the Templar and the jolly prior Aymer. Sir Walter thus describes the entertainment:—"Swine's flesh dressed in several modes appeared on the lower part of the board, as also that of fowls, deer, goats and hares, and various kinds of fish, together with huge loaves and cakes of bread, and sundry confections made of fruits and honey. The smaller kinds of wild fowl were not served up in platters, but brought in on small spits and offered by the domestics to each guest in succession, who cut from them such a portion as he pleased." Not much left to be desired it will be said, but then it must be remembered that this was a princely entertainment such as only very few, even of the wealthiest franklins, could command.

To their drinks, our Saxon forefathers having no fear of the Home-office or police before their eyes, devoted themselves *con amore*. In truth carouses were the rule rather than the exception, and in no stinted measure or of short duration were their computations. If all be true, even the clergy used to keep it up late, while on occasions of more than ordinary festivity among



the laity, the cup used to circulate through successive days—and nights. Ale was the common beverage. There was also mead—a very heady drink—cyder, a drink called morat, made of honey flavoured with the juice of mulberries, a sweet and rich liquor composed of wine highly spiced and sweetened with honey, and wine for such as could come by it.

So much for the good cheer in Saxon times. They didn't care much for furniture; all those huge joints were served on solid oaken boards, supported by good stout tressels of very inornate and heavy structure. The seats were wooden benches chiefly, chairs being reserved for state occasions. For velvet pile and carpets from the looms of Turkey and Brussels guests had to place their feet upon rushes, not too often changed and none of the daintiest, while the rude and draughty walls were draped, not so much (originally) for any purpose of decoration as to keep the gusts of wind from unduly interfering with the comfort alike of host, guests, and dependents. If we step from the hall to the kitchen we shall find furniture and utensils useful enough, no doubt, but not very numerous, or too highly elaborated. There were, indeed, ovens, spits, and cauldrons; but there were no grates, and they who are familiar with an Irish hovel or a gipsy's encampment may form a very fair notion of the manner in which many of those solid joints were prepared—to wit, in a pot, more or less capacious, swinging from a tripod over a fire made upon the ground.

Considering the far greater refinement of the Normans, and the contempt, not to say disgust, which the descendants of the conquerors at Hastings professed for the grosser habits of those whom they had vanquished, it is rather surprising that the difference in the dishes themselves, and in the habit of consuming their food, should not have been still more marked than we find it to have been. They did not indeed eat such quantities of animal food as the Saxons, but—at least till the time of the Plantagenets—there was little more actual refinement, or much greater variety. They possessed, in their various strongholds, more gold and silver plate, and there, at least, were to be found occasional delicacies; but they used to tear their food with their fingers, thrusting their hands into the dishes in a manner which, according to the notions of us, their successors, was neither over cleanly nor dignified. Still wheaten bread was a luxury known only to the few, and such wheaten bread as there was, was often neither kneaded nor leavened, hard and heavy as lead, and full of bran. Their wine, o, was, according to some authorities, abominable. The

commoner sort had still to put up with bread made of rye, oats, or barley; to devour swine's flesh and wash it down with cider or sour beer. Perhaps one of the most significant changes was that made in the names of the meats. While living and tended by hinds and villeins, the animals were still known as oxen, sheep, and swine; no sooner was the food served up to table than it assumed a nomenclature of the lordly victors, and became beef, mutton, pork. From which names we learn, incidentally, that the barons, at any rate, by no means confined themselves to the flesh of the swine. It is certain, too, that game was much more common on the tables of Norman knights than it had been on the boards of the Saxon thanes. It is to be presumed that in times when fish were abundant and meat scarce, the former would be a general article of food. At any rate, we know that a little later, in case of a threatened siege of any of their strongholds, especially in the border counties, the provisions stored up consisted to a very great extent of fish, not only eels and salmon, which were laid by in large quantities, but also the common fish, such as are to be found at this day in our inland brooks and ponds.

If the art of cooking did not make any very rapid strides under the early Normans the case was very different with regard to their dwellings. In lieu of the series of low wooden buildings, with reeds or shingles for their roof, which constituted the house of a Saxon noble, a very imposing style of architecture became general; the remains of many of these castles, with their massive stone walls and lofty towers, are still in existence to testify to the great change which both taste and necessity—the necessity, *i.e.*, of a few conquerors placed in a hostile land—combined to bring about. The furniture, indeed, remained much the same, for the Normans cared chiefly for out-door life; there were still rushes and straw for carpets, massive tables and benches, walls partly covered with tapestry, and little or nothing in the shape of what we call bedroom furniture; a crib with a straw mattress being held sufficient even for my lady's chamber, though often adorned, no doubt, with curtains and tapestry of more or less costliness.

Altogether, down to this period, accommodation in bed and board was such as our own highly paid and dainty operatives would certainly turn up their noses at, nor shall we find anything like the luxurious living now generally prevalent, as we pass through the Plantagenet, Tudor, or even the Stuart periods of English history.

[TO BE CONTINUED.]

J. M. SIMS.

## HOW TO EAT AND DIGEST.

---

ON this all-important subject many theories have been propounded, whole volumes written; and yet as often has the very point been missed which ought never to have been forgotten, viz., that we must listen to the voice of nature. In our present enlightened age of science, and spelling made easy, most of us know that one of the first receiving houses for food is a double-mouthed bag, lightly slung in the space below the end of the breast-bone, and called a stomach; that this bag is rather a complex structure, furnished with blood-vessels and glands, which keep it in working order, and with a set of nerves which telegraph to the brain when the working is out of order. The middle and outer coats of this bag have some muscles handily interwoven, and these are more plentiful and stronger at the lower mouth of the bag, and act the part of doorkeeper, to prevent refractory morsels of food from bolting through the opening as raw recruits for the bowels. Then, for the blood-vessels—the very term implies the function;—and the glands, what are they for? To secrete juices which shall help to digest the food; while the nerves are the telegraphic system which permeates the whole structure, and signals very distinctly to the brain when blood-vessel, gland, or muscle is failing to do its respective duty, or doing this duty inefficiently. If, then, we can bear in mind two great facts connected with the stomach, namely, that it has, first, a set of blood-vessels, and therefore can be inflamed; and, secondly, that it has nerves, and therefore can be pained,—we may perhaps feel more disposed to be cautious in our treatment of the same. Luckily for us, it is a good stout bag, and will stand plenty of wear and tear; but the proverbial camel has its back broken by the last straw, and the stoutest leather will occasionally give way, instead of stretching to circumstances; so, is it to be wondered at that the stomach sometimes strikes work?

My reader may ask, "How am I to tell whether this or that food agrees or disagrees with me?" I answer, "By your sensations." The nerves will telegraph the state of affairs. At first uneasiness, and then pain, will tell you whether the food you have taken has agreed, or the reverse. And, indeed, it is a question of agreement: you must come to terms with your stomach;

for if you do not, it will eject the unwelcome lodger, or pinch and gripe you into submission. So that by listening in time to the warning given by pain and uneasiness, you may avoid the life-long trouble of indigestion that neither Cockle's pills nor Du Barry's "delicious food" will suffice to remove, whatever the one or the other may have effected for the general public, or for his holiness the Pope.\*

I have spoken of the stomach individually as a separate organ, because it is perhaps more generally understood, if not more generally talked of; but we must not forget the part played by the bowels in the great drama of digestion. "Your stomach is out of order" is about the first sentence uttered by the medical man to his patient who shows him a furred tongue. Sir James Eyre has discoursed pleasantly and well on "The Stomach and its Difficulties." "I have a weak stomach," is the complaint of the dyspeptic. It is, as I said before, a good, stout organ, and will bear much rough work; and it is well for us that Nature has so constructed it, for when so many bolt their food with little or no mastication, how necessary is it to have another set of teeth lower down, to reduce the precipitate morsels to that more harmless compound known as chyme. This is what the stomach does for us—it re-masticates our food, only the teeth are replaced by certain juices, the constituents of which are a Babylonian mystery to physiologists. The stomach thus does the first hard work that has been shirked or slurred over by the teeth, and, though supplied so richly with blood-vessels, is rarely attacked by inflammation; showing that, after all, we must look to the poor neglected bowels for most of our digestive troubles. The remarkable example of the keeper of the Eddystone lighthouse only proves this fact too plainly; for when that building was destroyed by fire in 1755, one of the men, on looking up at the burning mass, evidently with his mouth wide open (from astonishment no doubt), swallowed 7 oz. of the molten lead that fell from the top, and lived for ten days afterwards.

After such a case as this, what will not the stomach valiantly undertake? What has it not undertaken? Witness the fine collection of clasp knives in the Royal College of Surgeons' Museum in Lincoln's Inn Fields, swallowed by an adventurous tar endowed with more courage than sense. This human ostrich was in the habit of swallowing knives and tenpenny nails, partly from bravado, and partly from love of gain, for his messmates paid him for making

---

\* Vide Testimonial 33,300,001.

these gastric experiments. However, one unfortunate afternoon he dined too freely on Sheffield cutlery, and paid the penalty of death for this unusual debauch. There are instances of the great endurance of the human stomach, but they are by no means examples for us to turn fire-eaters or Indian jugglers, but rather to warn us against making any rash trials of the powers of the stomach; for there is one little peculiarity about this organ—that, after repeated attempts to stay the progress of a tough morsel, the valve which stops unlawful exports becomes weary, and passes the contraband wares through sheer fatigue. The consequence is, that the fragments which withstood the peptic machinery of the stomach not only defy, but wound the more delicate surface of the bowels. Pause, then, a moment, before raising a tough, though tempting morsel to the mouth, and think of the journey it will undertake, when it has once fairly shot the rapids of the gullet, and got into the seething current of food that whirls and eddies in the great current lake below; and, as lighter craft glide safely over the Canadian rapids, so let your food morsel be light, and the transit will lose all danger.

Given, therefore, a stomach, strong yet sensitive, having a still voice-like conscience, and bowels delicate and impressionable—is it not fair that Nature makes us suffer through these organs, when we insult her so grossly by irritating them with bad food, ill-cooked, half-masticated, and wholly unfit for the purposes of nutrition? We deserve to suffer, and richly too. Sometimes we pour chemical compounds into the beautiful laboratory of Nature, and call them stimulants, but our chemistry is ill-applied. Stimulants they are in one sense, for they excite the coats of the stomach and bowels into a state of chronic inflammation. But this is not the whole sum of our folly. Barely satisfied with the mischief already worked by bad food and villanous drink, we crown all by vexing the unoffending liver, “more sinned against than sinning,” with blue pill, and the already wounded bowels with black draught. My gall rises as I write. Is it wonderful that we suffer? Is it surprising that we fall sick? How about that pain behind the shoulders, as if somebody had knocked you down with a paving-stone; and that pain in the stomach, as if the same assailant had, in Irish fashion, trampled on you when you were down? Did not that tough, leathery fragment, served as a steak, and chewed like rhinoceros hide, play some part in originating these pains? and did not the waiter, putting a decanter before you with an inky fluid in it, call it wine? Port wine I think he called it,

† misquoted the year of its birth by a quarter of a century. And

did you not pour this liquid fire over the inflammatory steak below, swallowed but not digested? And then, did you not, rushing wildly away to your office, bury yourself in your books? and was it a wonder that the devil of indigestion, the demon of dyspepsia, piped to his own?

This picture is by no means overdrawn. Hundreds of city merchants lead this spasmodic life for a few years, and then wonder that their stomachs are out of order. The wonder is, that their stomachs have kept *in* order so long. To those who say, "You have shown us how to get indigestion, but we want to cure it," I answer, "Do not talk about curing it, but rather ask how you shall prevent the same." This will be the safer and the more satisfactory plan; for though it is a very good thing to go to a doctor (for the doctor), it is a much better thing to keep away from him (for the patient); and if you can learn this happy art, enjoying good health at the same time, you have discovered the true elixir of life.

To begin with, take your meals regularly: do not dine at 2 p.m. to-day, and 7 p.m. to-morrow, and 4 p.m. the day after; but fix some stated hour; and, for the workers, I should say that from six to half-past six is a good and serviceable hour. Dining late is, as a rule, preferable to mid-day dinners, for dinner ought to be the principal meal of the day, and, to be enjoyed as well as digested, admits of neither hurry nor interference. The work of the day should be over; and a long rest, followed by light occupation before bedtime, will be singularly conducive to health as well as happiness. What profit or pleasure can you get out of a dinner when you know that an army of clerks awaits your supervision, or that some very tall and remarkably stout ledgers have to be balanced as soon as the cloth is removed? You wait with impatience for the courses to be served, for the food to be swallowed; but as for the digestion of the same, that is quite beyond your jurisdiction; your business is to clear so many dishes in a given time; your work is cut out before you, and, like a true Briton, you are not the man to shirk it. But you must consider that you have a stomach to superintend as well as clerks, and that if you do not give the bowels a passing thought, the balance will be dead against you in the ledger of health. Do not forget the good old adage, "After dinner rest awhile." Let your meals be considered as important an item in the business of the day as watching the firmness of foreign markets, the looseness of grey shirtings, or the fluctuating fortunes of the Mexican republic. If you are to ignore the art of dining, you may as well repudiate at once the art of living and working, for

rest assured that, unless you dine with judgment, you will not be able to calculate with foresight; and, just for the lack of a little gastronomical knowledge, you may be a bankrupt. Is there not the old story quoted by everybody who has written on food and digestion, namely, that the first Napoleon lost the battle of Leipsic from eating a badly-cooked mutton chop? He died of cancer of the stomach. I do not say that this was brought on by his hastily-snatched, half-masticated cutlets and chickens; but if we allow that a man has a predisposition to malignant disease, is it unlikely that the most ill-treated organ should be attacked by the disease? Be careful as to the character of your food—your imports let us call them; let them be nourishing, digestible, and judiciously cooked; for if these three qualities are combined, you will include a fourth, namely, that they shall be palatable. It is easy enough to tell you what is nourishing; those household words, beef and mutton, imply a multitude of dishes that shall nobly support life, and rarely fail to please the palate. Possibly you may reply, "That's nothing new; anybody could have told us to eat beef and mutton; we have been eating it all our lives." True, you have done so, but as unconscious of its merits as *le bourgeois gentilhomme* was of his conversation being prose—"Vive la prose! il y a quarante ans que je parle la prose." It may be that you have been eating beef for forty years, and yet you may be even now profoundly ignorant of its full merits and capabilities. You have not always eaten it with judgment; you have eaten it tough, perhaps, or with the juices of the meat extracted, or with greasy accessories that do not harmonise with either the meat itself or the consumer thereof. Perhaps you have, with unflinching fidelity, stuck to the same joints, scorning any change to interest the stomach or stimulate the appetite; so that familiarity with these household words has bred contempt. Study variety, or let your cook do so, if she has brains (I do not write for those who keep a male *chef de cuisine*); if your cook lacks intelligence, let your wife come to the rescue; for, in common courtesy, we will admit that *she*, at any rate, is gifted with these organs of thought. There is a general idea prevalent that all beef is pretty much of a muchness, more often tough than tender, instilling us with the belief that a bullock is an animal possessed of ribs which admit of mysterious rolling, and of a part which is liberal enough to supply us with steaks for the usual accessories of onions or oysters. But remember, *il y a des pommes et des pommes*, there are bullocks and bullocks, beef and beef, of varying qualities.

E. B. S.

## SOME FOREIGN FRUITS.

PART II.

---

IT is not necessary to mention those foreign fruits which have been made familiar to us by importation, such as the West India pine, to be obtained on a costermonger's barrow at a penny a slice, the shaddock of the West Indies, or the pomelo, as the same fruit is called in the East, the pomegranate, or the various kinds of nut, from the schoolboy's beloved cocoanut downwards. The *green* cocoanut, however, deserves to be spoken of as an essentially foreign fruit, not being obtainable in that form in this country. Dear as the ripe nut is to the schoolboy it would be a new sensation which he would appreciate if he could regale himself at a cricket match with one in its green state, before the sweet water, with which it is then filled, has begun to thicken into the "milk," which ultimately forms the hard and indigestible nut which the *dura ilia* of boys alone can consume with impunity. A good sized nut will contain about three-quarters of a pint of liquid almost as clear as water, with a sweet, nutty flavour, and vastly superior as a thirst-quencher to the abominable compounds frequently sold to thirsty schoolboys as ginger beer, etc.

A few words may also be given to the banana, though the increased facilities of communication with the tropics have made its appearance familiar to us, chiefly for the purpose of suggesting an application of it which will probably be new to the reader, even if he has tried the fruit, and, having done so, probably considered it hardly worth a second trial. As a fruit perhaps it is not, though there is a particular stage of perfect ripeness—such as cannot be obtained when the fruit is picked so very green for a long voyage—when the flavour is something very superior to that which it possesses when allowed to ripen in the bunch; but try it as a *fritter* made exactly as you would make an apple or an orange fritter, but using slices of banana. It may be observed, too, that the plantain and the banana are two very different things, though they are often confounded. The plantain (*Musa Paradisiaca*—so called because it has been supposed to be the forbidden fruit of Paradise) is a much larger but coarser fruit, very inferior in flavour to the banana (*Musa Sapientium*—rightly so named since all "wise men" would certainly prefer it to the plantain), but even in books, which one would expect to be accurate, the two names are so frequently interchanged that the one is often used for the other.



There is, however, a very marked difference between the fruits. The plantain is three-angled, and of a paler yellow when ripe, whereas the banana is many-angled, if not almost round, and is of a deeper colour, smaller in size, and richer in flavour. Neither has any great pretensions to rank high as a *fruit*, both being somewhat insipid, but as an article of *food* they are very valuable on account of their great yield. The growth is from suckers which spring up after the old stems are cut down, or decay after fruit-bearing: they run to a height of from 6 ft. to 20 ft., the fruit being produced in bunches weighing from 20 lbs. to as much as 80 lbs. Each head consists of several fan-like clusters of finger-shaped fruit set in a double row of ten or twelve, each springing from semi-circular collars placed at a distance of five or six inches apart on alternate sides of a stem which is occasionally as thick as a man's wrist. They afford a nutritious food abounding in starch, and so prolific is the yield that Humboldt states their produce as 133 to 1 compared with wheat, and 44 to 1 as compared with potatoes.

To come, however, to what may be more strictly called foreign fruits, since they are not obtainable in England, at least not as fruits, though we get them in other forms: the guava, for example, as jelly, the mango as a pickle, the green nutmeg as a preserve, though the last is not so well known as it ought to be. I have never met with it anywhere except in Java, where it is sold in little dumpy jars holding about half a pound, but it is worth enquiring for at some of our leading shops where foreign preserves are sold. The fruit of which our two well-known spices, the nutmeg and mace, are respectively the kernel and its web-like covering, is about the size of a small orange: when fully ripe the flesh or shell opens, as the walnut does, and allows the kernel to fall out. The shell retains a considerable portion of the strong aromatic flavour of the nut, and makes a delicious preserve for which, however, there cannot be much demand, for there must be many tons of shells every year from which it might be made if it were required.

By the way, digressing for a moment from *foreign* fruits, is it generally known how valuable a domestic medicine we have in the green walnut? Taken in the same stage in which they are used for pickling, and made into jam they are an excellent laxative.\*

---

\* **RECIPE FOR WALNUT JAM.**—Take 50 walnuts in which the shell has not begun to form, prick them all over, and boil in water till quite soft; strain the water off; put a clove in each, and strew over them 2 oz. bruised ginger. Make a syrup of  $\frac{1}{2}$  pint of water to  $2\frac{1}{2}$  lbs. coarse brown sugar, stirring on the fire till all is melted; then put in the walnuts and boil for 20 minutes, stirring to prevent them burning. In a household where there are young children, or persons of intemperate habit, a jar or two should be made every season.

The Guava (*Psidium Guaiava*), which we know chiefly in the form of the delicious jelly, is another of the fruits which, like the durian, creates a repugnance on first acquaintance. There are two kinds, distinguished as *pomiferum* and *pyriferum* by scientific people, and as "pink" and "white" by *nous autres*. Europeans mash up the pink kind with cream, and like Dickens's Marchioness "make believe very much," and try to fancy it the strawberries and cream of their early days in the old home. The fruit eaten in its natural state is either very much liked or very much disliked, without any medium state; the same person frequently passing from one extreme to the other, and, as in my own case, back again.

The Mango is another fruit which tries the palate in an eccentric way, delighting the stranger at one time with its delicious flavour, and disgusting him at another by leaving a taste in his mouth which travellers have said may best be realised by licking a newly painted door. The mango is common in all parts of the East, and in South America. Those of Massagong, near Bombay, are the best, and those of Brazil the worst. In shape and appearance it is something like a very large yellow plum. It has a large, flattish oval stone, to which is tenaciously attached by fibres a juicy yellow pulp which is very refreshing, but which it would puzzle the compiler of a handbook on Etiquette to tell you how to eat "elegantly," unless you use a teaspoon, but even then you will come to a difficulty, for you have to hold the mango as well as to eat it. The correct way is to sit before a tub of water with a napkin round your neck and a dish of mangoes within easy reach, not, as I have seen it stated in a traveller's account of a trip to Brazil, to enable you to dilute the turpentine by dipping your mango in the water, but that you may enjoy your juicy awkward fruit regardless of the mess it leaves you in. It is always well to take your first bite at a mango carefully, to see whether it is a turpentine one or not. Green, it makes an excellent pickle; and ripe, a moderately good jelly.

The Custard apple (*Annona squamosa* or *reticulata*, so called from its "scaly" or "net-work" appearance) is about the size of a large orange, but pointed at the top. The skin is intersected diagonally like a pine-apple, and the fruit has very much the appearance of a dumpy pine cheese. When perfectly ripe the scales or sections fall apart at the least touch, and each division has a tongue of soft pulp like that attached to the stalk of the strawberry, only that in this case the tongue or collection of tongues constitute the fruit. This pulp, both in taste and appearance, very closely resembles a

rich thick custard, whence its name. Each section has a hard black pip or seed enclosed in its custard. The fruit being somewhat difficult to handle when fully ripe, for it will almost fall to pieces of its own weight, they are frequently picked in an unripe state and left to mellow. They do this best when packed in boxes filled with bran. This is a very delicious as well as curious fruit, and so true is it to its name that a very fair imitation of it might be made by placing a number of black beans in a mould of the shape above described, and then filling up the interstices with a thick custard.

The Jambu (*Eugenia malaccensis*), on the other hand, is a very pretty fruit to look at, but the fair expectations formed by the eye are not realised to the taste. It is like a pear in shape, and in substance something like a peach, with a smaller stone, but of very inferior flavour. It is more valued as an ornamental tree for the garden than as a fruit. There are two kinds, one of which has an exceedingly delicate appearance, the skin being fine and of a beautiful pink on the side exposed to the sun, and white on the other side. This, however, is not so good a fruit as the other kind, which has a skin of a deeper red, forming a striking contrast with the pure white of the pulp, which, to be appreciated at all, must be quite ripe. Neither kind is of much value as a fruit. It is abundant in Ceylon, where it is largely used for ornamental purposes, but its home is, as its name implies, amongst the Malays.

In these islands there are numbers of other fruits, of more or less value, of which Europeans generally have hardly even heard the names, such as the rambutan; the lanseh, something like an arbutus berry; the blimbing, or country gooseberry, a pentagonal fruit of very sharp acid taste, usable only for tarts, sharp sauce, or preserve; the kataping; the barangan, a sort of chestnut, etc., etc. But not one of these tropical fruits is fit to be named in the same day as our choicer English strawberries, our hothouse grapes, our peaches, apricots, and nectarines, still less with that king of fruits, a really good pear.

GEORGE WALTERS.

---

**THE HERRING FISHERY.**—The great herring fishery on the north-east coast of Scotland has been successfully prosecuted at most of the stations, especially on the Caithness and Aberdeen coasts, the total catch of the week for 3,500 boats from Aberdeen to Wick inclusive being considerably above 100,000 crans, and bringing the season's catch to 300,000 crans, being considerably above the average of former years on the Caithness coast, where upwards of a thousand are engaged; the catch already exceeds that at the close of last season, and there are still indications of continued abundance next week if the weather be favourable.

## THE BEER OF KAFIRDOM.

---

IN a previous number of the *Food Journal* (November, 1871) allusion was made to the fact that the Kafir races of South Africa are essentially and naturally an agricultural and a pastoral community, subsisting mainly upon the staff of life produced under the rudest form of cultivation from their gardens, and the mode in which the daily meal of *isicaba* is prepared from maize and millet corn was described. There is, however, another form in which—at least at the present time—the millet is more generally and constantly consumed—that, namely, in which it is technically spoken of as *uchwala*.

*Uchwala* is properly the beer of Kafirdom, and it is, at least, an interesting product in the sense that it represents certainly the most advanced point of Kafir provident ingenuity. About no other object in Kafir domestic life is so near an approach to cultivated care and skill displayed. The precious beverage is compounded from prepared grain, and subjected to an elaborate process of brewing and fermenting, and is then stored for use in jars of basket-work so perfect in construction, that they could scarcely be excelled by the highest effort of civilised handicraft. This is the more remarkable as the triumph of skill is almost an exceptional and isolated one, being made by a people whose sole mechanical achievement has been the contrivance of the rude skin bellows for smiths' work, and the fashioning of the grinding stones already spoken of as the Kafir substitute for the mill. The Kafir's poverty of constructive skill in any other direction of domestic convenience is so marked that the removal of the beer-pots from a hut is very nearly tantamount to unfurnishing the house.

The grain which is used for the preparation of Kafir beer—for the most part the seed of the millet already alluded to as Kafir corn, or *amabele*—is, strange to say, subjected to a real malting process, identical, in all essential particulars, with that which is used among our noble selves in the case of John Barleycorn. It is first induced to germinate by covering it in a warm place with moistened mats of grass, and the sprouting is then stopped by the application of heat. The malted grain is next kept simmering in hot water, contained in a large earthenware pot for some time,

and is then set aside to ferment in a warm sunny place, fragments of a dried succulent plant having been stirred in to play the part of yeast in starting the transformation. The scum which rises to the surface during the fermentation is skimmed away, from time to time, by ladles made of grass stems spread out and loosely woven together at the bowl. When the fermentation is complete, the beer is poured through a mat strainer, shaped and tasselled very much like an inverted red nightcap, into the store vessel, which is made of thickly and firmly woven grass.

The grass milk-pots and beer-vessels of the Kafirs are really surprising works of art. They are of great diversity of form and size. The vessel of most general utility is a kind of bowl slightly drawn in at the lips, and therefore bulging jovially out in the middle zone. The twigs of pliant shrubs and bushes, and the stems and leaves of grasses, reeds, flags, and rushes, and even the fibres of bark, are drawn upon in the manufacture in turn. The coarser fibres are ranged in a series of rings, placed one above the other, and these are very firmly bound together by intermeshings and twistings of finer material, the rings and connecting fibres being closely beaten down during the progress of the manufacture by wooden or bone implements. A considerable quantity of raw material is used in the construction of the best vessels, so that they are very thick and firm, and present a neat and regularly ribbed appearance to the eye. They are, of course, proof against breakage. Their capacity to hold liquid without leakage is due first to the very close packing of the abundant material in the process of manufacture, and then to the same influence which renders the wooden cask water-tight, namely, the swelling out of the individual fibres into intimate contact by soaking them in water. A well-made Kafir beer-basket not only holds the beer without leaking at a single pore, but continues to do so for practically unlimited periods of time. It is as durable as it is perfect in its liquid-containing power.

The strong point of the basket work crockery is its absolute immunity from fracture. Its weak point, of course, is its equally absolute inability to stand fire. Although so convenient for storing and serving the Kafir beer, it cannot be used for the preliminary proceedings of brewing; a kind of clay pottery is employed for those, and, indeed, for all other purposes where the aid of the wood fire is called in. This pottery is almost entirely made from the substance formed by the white ant for the construction of the walls of its nest, which is properly a finely puddled clay rendered viscidious by a glutinous secretion of the insect. The old anthheap

is pounded with stones, and then kneaded with water into the consistence of a stiff paste, which is fashioned into the form of a pot by hand. The bottom of the vessel is first laid down, and then the sides are built up upon this; but this building is done gradually by laying on ring upon ring of fresh material, each fresh ring being only placed when the lower one has hardened sufficiently to sustain the additional weight, and keep its own form. The construction of a large pot is, on this account, a work requiring a considerable outlay of time. The rings of the clay are pressed and smoothed in their places by a piece of wood, the only implement employed in the manufacture, a work which is performed entirely by the women.

The beer, when ripened for use, looks to the eye very much like thin gruel, and to the taste it is not unlike gruel flavoured with a dash of very small and very stale table beer. Natural cups, formed of gourds with the tops cut off, are used very commonly in drinking it, and it is ladled out from the store vessels by other gourds, to which the stem still remains attached to serve as a handle; and occasionally by spoons carved out of wood. Insects and other accidental impurities are carefully strained away from the body of the liquor by the reed spoon, already alluded to as employed in the removal of scum. The more hearty toper, with whom beer is abundant, prefers to take the large bowl between the palms of his two hands, and lift it to his lips for an unrestrained draught that penetrates deep down into the capacious recesses of the vessel, a practice which is almost invariably adopted by the English or European guest who is the object of Kafir hospitality. The Kafir beer, unpalatable as it, alas! is at first to the fastidious taste that has been educated by Allsop and Bass, gets to be keenly relished by travellers and hunters who live much in the African wilds, on account of its refreshing powers. When taken continually, and in abundant quantity, it is very fattening. Old, well-to-do Kafirs do take it continually, and do grow very fat upon their plentiful potations. With chiefs who have a large establishment of women to grow and malt the corn, and to make the pots, and brew the beer, the well-filled beer-bowl is scarcely ever out of sight. If the old patriarch walks out from his hut for any purpose of surrounding inspection, an attendant slave takes care to carry the bowl with him and have it ready for his call; and when he pays a visit of ceremony, or of friendship, his friend's bowl immediately takes the place of his own. The beer is not heavily intoxicating, but it does contain some spirit. When taken in a hearty draught it is commonly strong enough to give a pleasant after-sense of glow,

and this, no doubt, is the quality which makes it so commonly acceptable to the white-skinned traveller or hunter. An Englishman would not find it very easy to take enough of it to get inebriated, but the old Kafir toper, by dint of keeping an almost continuous gentle stream pouring through his swallow and stomach, does sometimes manage to get fresh upon it. The writer remembers upon one occasion, when he was paying a visit with the Lieut.-Governor of Natal to the kraal of a tributary chief, being very much puzzled at the bearing of a bevy of old men who had been assembled round the chief to do honour to the auspicious occasion. The old men at first had manifested all the usual staid dignity and reticence which is so marked and constant a character with the Kafir at years of discretion, and could scarcely be induced upon any pretence to leave the crouching squatting posture, which among them is the attitude of deference and respect, as standing is among civilised men. But at a later period of the day the writer, to his infinite surprise, came suddenly upon the Governor with the old counsellors bolt upright, and maundering round him in a confused and intricate crowd, all babbling at once, and obviously unconscious altogether of the august presence in which they were placed. The Governor was laughing, good humouredly, and greatly enjoying the eccentric gyrations and maudling grimaces of his dusky satellites. He had already had the explanation from the secretary for native affairs, who was well versed in every mystery of the Kafir character and mind, which was afterwards given also to the author of this narrative. The native secretary explained that an unusually liberal allowance of Kafir beer had been provided in honour of the Governor's visit, and that the old councillors, in their eager efforts to duly mark their loyal appreciation of the event, had all managed to get intoxicated.

The writer's own impression, however, certainly is that this is by no means a common, or frequent, result from potations of *uchwala*. The Kafir beer is properly an article, and an important article, of food, rather than of drink. It is the form in which it has been found to be most convenient to appropriate the nutritious properties of the small and hard grains of the millets, which constitute Kafir corn. It is in reality a partially-fermented gruel, and as such is perhaps scarcely of inferior importance to the *isicaba* as a staple of the ordinary daily food. *Isicaba*, *uchwala*, and *amasi*, that is, porridge, fermented gruel, and sour milk, are the standing resources of the Kafir larder—the prime necessities of life of the humanity of Kafirdom. The *amasi* is simply the milk of the cow clotted by fermentation, and the separation of the whey. A small portion of

the old milk is always left in the store vessel, to bring about the fermentation. From this mingling with the old milk, in vessels which are never washed, the clotted milk in the Kafir's kraal very commonly has something of a cheesy taste. But when prepared with only clean vessels, and with adequate care, it is a really delicious article of food. It is a thick clotted homogeneous mass, more like very soft blanc-mange than ordinary curds, with a slightly acid, but most agreeable flavour. European settlers in Kafir lands invariably adopt it as a constant accessory to the daily meal. The cows are milked by the men, and are held during the operation by a stick thrust transversely through an opening, made artificially for the purpose, in the partition between the nostrils. The milk pails are vessels carved out of wood; they are generally of a long and narrow form, with more or less contracted mouths. They are carved externally, and hollowed out within, by the use of the iron-headed spear or assegai. The carver buries the greater part of the rudely fashioned vessel in the ground while he digs out the interior, and so extemporises a very convenient and effective vice, squatting himself comfortably on the ground before his work. It is a necessary consequence of the rude method employed in their construction, that the wooden milk-pots of the Kafir are clumsily thick; but they are often elaborately ornamented on the outer surface, and it is an amusing illustration of the hold which the woven grass vessels have upon the affection, as well as the imagination, of the race that the carver then exerts his utmost ingenuity and skill to make his milk-pot look as much as possible like a straw basket. The ribs and twisted ligatures of the basket-work are often very exactly and admirably rendered on the carved surface of the wood.

H. J. MANN, M.D.

---

HOW THE ENGLISH WORKMEN LIVE AT VIENNA.—By the private munificence of one of the Royal British Commissioners, about sixty workmen have been housed in two buildings of galvanized iron brought from England. Here they are provided with good beds, and in some cases with separate rooms, at the cost of five shillings a week. The board costs them eighteen shillings for the same length of time. Each cottage is surrounded by a pretty little garden, where the men grow cabbages, carrots, etc. Near these small buildings, a portable cooking apparatus, in the shape of an engine, is stationed. This curious machine goes by the name of the "British Workman's Hotel," and serves for boiling and baking meat, steaming vegetables, and making tea or coffee; it is on four wheels, and can be drawn by one horse. By means of this machine one hundred workmen, who for want of room cannot be lodged in the cottages, are provided with breakfast, dinner, and tea, in an adjoining tent, at the rate of 2s. 6d. a day. There is also a laundry, fitted up with patent apparatus for washing, boiling, rinsing, bluing, wringing, and drying the clothes. One small fire supplies all the hot water, dries the clothes, and heats the smoothing and polishing irons for finishing the linen.



## MARKETS OF THE MONTH.

---

The sickle of the harvestman is well into the thick of the waving crops of golden corn ; but few fields still remain untouched, and from all sides favourable accounts are received of the harvest of 1873. Most of the corn will be cut and carted, and the land will be clean in time for the sportsman to exhibit his prowess and that of his dogs on the glorious first of September. Grouse shooting, however, has already commenced, but, alas, the prospects of the season are not favourable ; disease appears to have been but too prevalent in many districts, and a great deal of corn was standing during the first days of the season, hence poor bags, blighted hopes, and bad tempers were the rule. It would seem but too certain that grouse will be scarce all through the season in consequence of the havoc made by the disease on many moors. The price on the 13th was 10s., now it is from 8s. to 9s. per brace.

For potatoes, the market is improving ; there is a moderate supply of both English and foreign sorts. Regents are making 100s. to 120s. ; Shaws, 90s. to 100s. ; kidneys, 100s. to 120s. per ton. Sad accounts are received as regards the prospect of the crop from almost every district, disease is represented as rapidly increasing its insidious attacks ; already as many as one-fourth of the tubers are said to be attacked in Warwickshire. Dry weather is the best antidote to the poison, and it is dry weather too that we want for the harvesting operations just now.

The sugar market is a little firmer, and prices are slightly improved. Coffee is selling at rather below late prices.

The meat market is quiet, at poorer rates. In the live cattle market depression has reigned of late ; the demand for prime breeds has been limited, and inferior disposed of at lower prices ; sheep and calves have been sold at slightly lower rates ; lambs and pigs unchanged.

A moderate supply of hay and straw is on sale. Prices are, old clover, 100s. to 108s. ; new, 84s. to 90s. ; inferior, 60s. to 70s. ; prime meadow hay, 80s. to 84s. ; inferior, 50s. to 70s. ; straw, 33s. to 38s. per load.

Fresh butter is a little dearer, as also are fresh eggs. The prices of the Cork butter market are, firsts, 116s. ; seconds, 111s. ; thirds,

103s.; fourths, 93s.; fifths, 84s.; sixths, 56s.; mild cured firsts, 124s.; seconds, 116s.; thirds, 106s.

In the fish market I may mention that oysters are coming into season, and that soles, whittings, haddocks, turbot, brill, plaice, hallibut, cod, codlings, skate, hake, ling, John Dorey, salmon, trout, lemon soles, herrings, mullet, and many other kinds, are now in season. The supply of salmon at Billingsgate has latterly been larger than it was last year by more than 500 boxes per week. At the commencement of the season we were favoured with large supplies, but after the first two months a considerable falling off occurred.

In the poultry market prices are now at their lowest, and it does not require a very clever mathematician to perceive that even so they are higher than in former years by at least 25 per cent. Game also is expected to realise much higher prices than in former years.

For variety and quantity of vegetables this is *par excellence* the month. Tomatoes are coming in; allow me to recommend them to my readers as the most delicious and serviceable vegetable in existence, if properly cooked. Mushrooms, too, are now plentiful, and it is a good year for them. Apples are plentiful in some districts, scarce in others. Plums of all kinds are scarce; apricots, peaches, and nectarines are universally reported a failure; they realise from 2s. 6d. to 4s. 6d. per dozen; greengages, 15s.; apples, 8s. per bushel. Nuts are tolerably plentiful, but they will not come to market in any quantity until next month.

August 19, 1873.

P. L. H.

**SUBSTITUTES FOR TEA.**—The American Agricultural Bureau brings *matè* under attention, and by comparative analysis proves that yupon, *matè*, and tea and coffee all contain the same active principle—thein. *Matè*, says the *Philadelphia Medical Reporter*, is a Peruvian weed, largely indulged in by Indians and half-breeds. It is concocted in a small silver porringer, with a tight lid and a small spout, which spout goes the round of the blackened mouths of the *matè*-sucking circle. It is a great breach of etiquette in Peru to refuse to take *matè* on such conditions. The last proposition is to supplant tea and coffee by "yupon," and the proposition also comes from the National Department of Agriculture. "Yupon" is an Indian word, and the plant itself is the cassine yupon, the *Ilex cassina*, a diuretic, and in large quantities emetic. It was used by the aborigines, and also by the "poor white folks" in former days.—*Brit. Med. Journ.*

## CORRESPONDENCE.

## THE COCOA QUESTION.

*To the Editor of the "Food Journal."*

SIR,—The trial that has just taken place in London, for selling as cocoa an admixture of cocoa with farina and sugar, shows the necessity for some radical change in the way the trade is conducted. It is not surprising that grocers should often ask the question, What is the difference between cocoa and chocolate? or that manufacturers should be unable to give a satisfactory answer when they supply precisely the same kind of article in 14-lb. tins as chocolate powder, and in small packets as cocoa. With the exception of ourselves and perhaps one other firm, all the largest manufacturers make this their practice, and would not dispute it. The genuine nut is in all cases cleared and imported as cocoa. The word chocolate is derived from the Mexican word "chocolatl," which is taken from the clashing sound of the stones between which the cocoa is bruised and mixed with sugar and spices, and is thus understood in every civilised country. When the Adulteration Act came into force we did not think it straightforward to label our articles prominently "cocoa," and then to contradict ourselves by stating in small letters at the end of the packet that it was not actually cocoa but an admixture of cocoa with sugar and flour. As soon as we could alter our labels we called all genuine articles "cocoa," and all admixtures "chocolate" or "chocolate powder," and have found this to give general satisfaction to our customers, as the words thus used clearly define the character of the article.

We are, etc.,

CADBURY BROTHERS.

## AUSTRALIAN MEAT.

*To the Editor of the "Food Journal."*

A writer in the *Food Journal* some time since complained that Australian Meat is stringy from the fibres separating under the knife, more or less, when an attempt is made to cut it. The cause of the stringiness obviously is the long time which the meat is boiled, some tins having been boiled so long that the meat breaks to pieces even under a sharp knife, instead of being cut by it. If the manufacturers of this meat were to boil some tins one hour, and others an hour and a half, or more, and print on the tins how long it had been boiled, they would very soon find out how long the public liked to have the meat boiled, which, if they preferred a shorter time, might extensively promote its sale. Perhaps the manufacturers over-boil it to convert the small quantity of water into a thick jelly, but this might be equally well effected by putting some strong broth into the tins instead of water. It appears a general impression that the longer meat is boiled the less nutritious it is, in consequence of the loss of flavour. There is, however, an objection to Australian Meat which occasionally is much more inconvenient, and that is, that the tins are painted usually, perhaps with lead paint, and being opened by a chisel (which in many instances happens) portions of the paint chip off and of course fall into the meat. On one occasion this proved so unpleasant

that I should not like the meat unless it could be avoided. This may be easily effected by scraping the paint off with a pen-knife or other convenient instrument for about an inch round the margin, and rubbing the scraped surface with a towel so that the metallic surface becomes quite clean. If zinc paint or any other sort not poisonous were used, it would be preferable. It is almost superfluous to add that the meat is very good, in fact, quite good enough, and keeps fresh a week or more after the tins are opened.

B. CLARKE, M.R.C.S.

#### VEGETABLES BETTER THAN NOTHING.

*To the Editor of the "Food Journal."*

SIR,—The above title, adopted by the writer of an article in your August number, is of too negative a character to do justice to the subject; nor does it indicate the writer's own views, the remarks throughout the article referred to being entirely in favour of the nutritious value of vegetables. The following facts, which came under my own observation, may possess some interest for your readers. A few years ago, a case was brought under my notice by a medical practitioner of Brighton; a family, consisting of husband, wife, and five children, were in a very low condition of health through poverty; they lived upon cheap, adulterated bread, the consequence was that they all suffered from skin eruptions, the younger children from rickets and other symptoms of mal-nutrition. The medical man, who spoke to me on the subject, said if they could only have vegetables supplied to them occasionally, it would be better than living on bread of the bad kind which alone they could afford. I made an arrangement with my greengrocer to let them have a daily supply of vegetables at a weekly charge. The mother went for them herself in the evening. In a week there was a marked improvement in the health and appearance of the whole family, and in a month they had lost the eruptions and other troubles, their health being fairly re-established. This change was brought about entirely by means of the introduction of vegetables into their dietary, for they did not taste animal food all the time.

Although I am not an advocate for an exclusive vegetable diet, yet I do think that many persons (domestic servants especially, who are very gross animal feeders) would be far more healthy, their blood more pure, and their skin less coarse, if they would eat more vegetables and less meat as a rule. But the English are a prejudiced people, the domestic serving class particularly, and if they must "die for it," they will have their pound of meat at a sitting, and their hour for dinner, no matter at what expense or inconvenience to others, as well as injury to themselves.—Yours obediently,

M. A. B.

A correspondent writes:—In following my business as grocer, I supply several soda water and lemonade makers with refined sugar for their trade purposes; I have repeatedly had complaints lodged against foreign lump sugar, the cause being that it threw off a fibrous vegetable substance, and so affected the brewing as to render it sometimes, not always, unsaleable. I took the vegetable fibrous substance to be "beet," as did also an analytical chemist in our neighbourhood; he is not, however, able to test the presence of "beet" in the sugar. I write you to ascertain whether English refiners use "beet," and if so, to what extent compared with Dutch and French refiners, and to know whether it be possible to have a refined sugar entirely free from "beet."

## NOTES OF THE MONTH.

---



### BATH ASPARAGUS.

BATH is associated with many good things—potable and edible. Bath waters, Bath buns and Bath chaps are too well known to call for any special attention in this short note, more especially as the food products of that city formed the subject of an elaborate article in a recent number of this journal. Possibly, however, Bath produces something which, although at present little known, is likely to become as famous as the much-sought-after mineral waters and the time-honoured buns and chaps. The engraving represents the “Wild Asparagus,” as it is called, which, in the western city, is used as a substitute for the genuine article. The untutored eye, in glancing at the wood-cut, will

possibly mistake the asparagus for young wheat-ears tied together, though the more learned reader will at once discover nothing but the flower-scapes of *Ornithogalum pyrenaicum*. Experiments made in the culinary direction have elicited the declaration that of all the substitutes for asparagus yet tried, this is the best.\*

---

THE subject of food adulteration in Dublin continues to receive a very large—but not too large—share of official attention, and the

\* We are indebted to our excellent contemporary the *Gardener's Chronicle* for use of the above engraving.

police reports from time to time show that the offenders are many, and that the magistrates are determined to suppress the crime of pampering with the people's food with as strong a hand as the law permits. We are far from saying that adulteration is practised to a greater extent in the capital of Ireland than in other large centres. The exposures made, indeed, rather point to the conclusion that the assiduity of the authorities is lessening the number of offenders to a *minimum*. But, instead of reclining on their oars, now that so much good has been effected, they have redoubled their efforts, as the merest glance at their operations indicates.

Then we hear of the coffee adulterators in the police court of Dublin. Dr. Cameron gives it as his opinion that as an article of food chicory is not only useless but absolutely injurious. He had no hesitation in saying, and it was the opinion of the highest medical authorities, that used as food it was detrimental to health. For holding these opinions, the analyst is severely taken to task by the grocers, one of whom rests the case for the opposition on the following by Dr. Lankester, on the subject of chicory:—"The plant which yields this root is the type of a great division of compositive plants, known by their milky juice, and to which the dandelion and lettuce belong. From being recommended as a substitute for coffee, it came to be used for adulterating it, and then a curious fact was elicited. Many persons prepared coffee with chicory in it, and there seems no doubt that chicory does take from coffee a part of that roughness which renders it disagreeable to the taste of some individuals. Chicory contains an empyreumatic oil, and a bitter principle similar to that found in coffee; it has also a sweetish taste which probably contributes more than anything else to its modification to the flavour of coffee. On the continent of Europe it is used very extensively alone, and perhaps the influence of its empyreumatic oil on the system may be its recommendation." There is no opinion here as to the nutritive properties of chicory, though the grocers are loud in their protests that Dr. Lankester's views are in their favour. And again, they ask the magistrate to rule that "coffee mixed with chicory" printed on every packet of the mixture sold, as in packets of cocoa, mustard, etc., is sufficient. The whole subject is being carefully considered.

---

ANOTHER grievance has cropped up in Dublin, and this time upon the unsavoury subject of flour adulteration. Complaint was made that the garrison of that city were supplied with bread

bearing an admixture so vulgarly low as grit or ground stone. Dr. Cameron found that the food contained a large quantity of ground Welsh stone; he condemned it, and the 6,000 lbs. of bread were sent to the Zoological Gardens for the use of the birds. The name of the contractor has not been allowed to transpire, and it does not appear that any person is to be brought under the lashes of the law for this unblushing fraud. On the contrary, endeavours are being made to explain away the reflection that attaches to the miller or the baker by reason of this discovery. One apologist attempts to reconcile the "grit" with trading probity by stating that we are almost wholly dependent on foreign product for our cereal requirements; and that "in the production of different classes, from the highest to the lowest quality of foreign wheat, whether for the nature of the producing soil or inadequate cleaning, we frequently find a certain percentage of gritty substance." Further, "that to meet this objection in the process of manufacture, alike injurious to the machinery as prejudicial to the sale of the flour, the highest mechanical skill has been exerted, of which our millers have taken advantage, regardless of cost." So much for the explanation; but another view of the subject, taken from an authority with whom every analyst is familiar, may be equally interesting:—

"Flour is not so much adulterated as might have been expected from the fearful extent to which adulteration is carried on in the manufacture of bread. The falsifications practised by the millers principally consist of mixing bad flour with good. Pereira, however, states that wheat flour is subject to adulteration with various vegetable and mineral substances. Among vegetable substances he names the following:—Potato starch, the meal of other cereal grains (maize, rice, barley, rye), of buckwheat, and of beans, peas, and vetch. The numerous other substances which have been used to adulterate wheat flour are chiefly chalk and sulphate of lime (plaster of Paris). White clay and bone ashes are also said to have been used."

The same authority proceeds to state that at present, owing probably to the increased value of bone dust for purposes of manure, this adulteration is seldom or never practised. Now, these remarks refer particularly to imported wheats, and the public are curious to know what proportion the "mineral substances" in question bear to the wheat flour in the bread complained of. We are all resigned to accept an admixture of inferior vegetable substances in the loaf, and a moderate infusion of alum; but the grit—the slovenly ground stone and mineral composts—is rather too much for the credulity and indulgence of the consumer. The public accept many impositions, simply because their non-professional education leaves them in happy ignorance of

what they are digesting, but broken stones, unless in homœopathic doses, are too much for the appetite of even the most charitably inclined epicure. It may be that "grit" attaches to foreign grown wheat in very inconvenient quantities, and it is doubtless true that the "grit" taxes the patience and tact of the miller in his endeavours to disassociate it from his flour; but it is equally true that the "grit" found its way into garrison bread, and has been conspicuously absent from the bread of the civilian consumer. No miller or baker would have ventured to supply private customers with gritty meal or bread for domestic consumption. If he had, the consumer would have transferred his patronage to a firm which enjoyed an immunity from "grit," and the trader in gritty wheat, or gritty wheat flour, would have been driven to the necessity of putting up his shutters. The same conditions ought to obtain in the case of a garrison supplied by contract. If we must have real and tangible grit, so be it; but in all fairness let military and civil consumers be served alike.

---

THE letter from Messrs. Cadbury Brothers, which appears in our correspondence column, is only one of many communications on the subject of cocoa mixtures addressed to this journal. The point to which the firm just mentioned calls special attention is contained in the last sentence of their letter. In describing their endeavours to meet the requirements of the recent Act, they say "as soon as we could alter our labels we called all genuine articles 'cocoa,' and all admixtures 'chocolate' or 'chocolate powder,' and have found this to give general satisfaction to our customers, as the words thus used clearly define the character of the article." This method is, however, objected to by another eminent firm who "as there can be no possible objection to an exact statement of fact as regards prepared cocoas, think it wiser that such a statement should now be affixed to all articles whether sold loose or in packets." On the same subject another firm of cocoa manufacturers express an opinion that "the real questions are whether the purchaser of any article of food receives that which is sound and wholesome, and that which he expects to get." They add, "If upon the label it is stated that the article is not cocoa in its natural state, but a preparation or combination, it is impossible to see in what way the buyer is injured or deceived." Perhaps, however, the most noteworthy feature of the question is that presented by the recent decision of Mr. D'Eyncourt who, in dismissing a



summons, remarked that it appeared from the evidence cocoa was never sold as pure, that it was not desirable it should be so sold, and would not in fact be purchased if it were sold as pure. Referring to the case of *Fitzpatrick v. Kelly*, in the Queen's Bench, the judgment in which appeared to assume that the seller must be very careful, he expressed an opinion that the prosecution should show the object of the seller to be fraudulent, and that there was a guilty knowledge on his part. Mr. D'Eyncourt seemed to think the wholesale manufacturer should be attacked if any adulteration were detected; so that the present position of things stands thus, the Queen's Bench having interpreted the meaning of the Adulteration Act, the magistrates are proceeding to interpret the meaning of the Queen's Bench!

---

M. SAU, of Neuchâtel, is said to have achieved remarkable success in the preservation both of meat and vegetables. His mode of operation is thus described:—The meat, etc., is packed in barrels, and covered and surrounded with one quarter its own weight of acetate of soda, in the form of powder; in summer the action of the salt is immediate, but in winter it is necessary to place the barrels or other vessels in a chamber heated to 20° centigrade. The water of the meat is absorbed by the acetate of soda. At the end of twenty-four hours the meat is turned, and in twice that time the operation is finished. The meat may either be packed in its own brine or dried in the open air. If the barrels are not full, a solution of one part of the acetate to three of water should be added. When the brine is separated from the meat and evaporated to half its volume, it crystallises, and half the salt is saved, while the remainder is an excellent extract of meat, which represents, when reduced to a thick paste, 1/3 of the weight of the meat. This extract is added to the preserved meat, and is said to restore its original fresh flavour. When the meat is to be used, it is steeped from twelve to twenty-four hours in tepid water, containing ten grammes of sal ammonia to the litre. Fish, fowls, ducks, and snipes have been preserved whole in this solution of acetate of soda, the entrails being first removed.

Meat loses one quarter of its weight by the action of the solution, and another quarter if dried. The flesh of warm-blooded animals may be dried with the aid of the stove; but most fish, and especially salmon and trout, can only be dried in the air.

Vegetables are treated in the same way as meat, but they lose

five-sixths of their weight, except Brussels sprouts, which only lose three-quarters. When wanted for use they are plunged in cold water for twelve hours, and are then cooked as if they were fresh. Before the vegetables are covered with the acetate, however, it is necessary to warm them, in order to get rid of their rigidity. At the end of twenty-four hours they are taken out and dried in the open air.

Mushrooms are steeped for twenty-four hours in a solution of equal parts of acetate of soda and water; the solution should be at 30° centigrade. The mushrooms are finally strained and dried. Potatoes must be first cooked by steam, and then treated like other vegetables.

M. Sau declares that the same treatment succeeds well with thin-skinned fruits, such as peaches, plums, strawberries, and raspberries; and with thick-skinned fruits, such as apples and pears, provided they are first split or heated through.

All substances prepared by this process, if dried, must be kept from moist air, or they exude; and when exposed to the air, after having been soaked in water, they become mouldy, but do not rot.

The inventor insists strongly on the value of his plan in the case of vegetables, which can be prepared, he asserts, at one-tenth, or even one-twelfth of the cost of preserving them by the ordinary modes in use. Should this system be as effective as the author of it declares it to be, it would undoubtedly be of great importance, and it would be easy to try an experiment in a small way in order to ascertain the effect of the acetate of soda on the flavour of meat and vegetables.

---

*"Tempora mutantur et nos mutamur in illis"* appears equally applicable to the "babbling brook" as to man, if we may credit the account recently furnished of the Thames in the days of Henry VIII., when, according to Sir W. Ferguson, that river was "declared by Parliamentary document the finest salmon stream in his Majesty's dominions." Now, however, it is said to be "one of the best or worst abused streams that the world has known." Possibly the penny steamer may have helped in some part to bring about that condition of the Thames which has been the theme of a hundred jokes; but the "base uses" to which the stream has been applied in being made the "cloaca of human aggregation" have probably contributed more than any other cause to a revulsion of feeling which should prevent any further pollution of that which is an essential of life to the immense population living

on its banks. The questions of utilising sewage and purifying rivers are amongst the most important to which the minds of sanitarians and economists can be directed, but their solution at present appears highly remote. Still it may be pardonable to indulge in the hope that the metropolitan river may again appear as before "his clear waters had been dimmed," even if it fail to become once more "the finest salmon stream in her Majesty's dominions."

---

## DOMESTIC RECIPES.

---

*The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.*

---

### VERY FINE RASPBERRY VINEGAR.

Fill glass jars, or large wide-necked bottles, with very ripe but perfectly sound, freshly-gathered raspberries, freed from their stalks, and cover them with pale white wine vinegar; they may be left to infuse from a week to ten days without injury, or the vinegar may be poured from them in four or five. After it is drained off, turn the fruit into a hair sieve placed over a deep dish or bowl, as the juice will flow slowly from it for many hours; put fresh raspberries into the bottles, and pour the vinegar back upon them; two or three days later, change the fruit again, and when it has stood the same space of time, drain the whole of the vinegar from it, pass it through a jelly-bag or thick linen cloth, and boil it gently for four or five minutes with its weight of good sugar, roughly powdered, or a pound and a quarter to the exact pint, and be very careful to remove the scum entirely as it rises. On the following day, bottle the syrup. When the fruit is scarce, it may be changed twice only, and left a few days longer in the vinegar.—*Miss Acton's Cookery.*

---

### BEEF TEA.

The lean of beef, carefully deprived of every portion of fat, and cut in very thin slices across the grain, or chopped up, half a pound; place this by the side of the fire in a covered earthenware, or very clean metal vessel, with two or three cloves, a small pinch of salt, and about a pint of warm (not boiling) water; after remaining an hour, the whole may be heated to the boiling point. If the beef is boiled at first, it is hardened, and the most nutritious portions are not dissolved. The proportions recommended make very good beef tea, but in cases of extreme weakness, where it is desirable to give as much nourishment in as small a bulk as possible, it may be made of double or even treble the strength directed; in which cases the beef should be carefully pressed, to extract all the liquor, before it is thrown away.

---

*\* \* Every communication intended for insertion in the "Food Journal," should bear the name and address of the contributor, not necessarily for publication, but as a guarantee of good faith.*

THE  
FOOD JOURNAL.

---

DISEASE PROPAGATED BY MILK.

---

THAT water contaminated by sewage is apt to produce or propagate typhoid fever and other diseases has long been believed, and on sufficient grounds. That water infected with the excreta of cholera patients is of all things the most effective in the propagation of cholera, is one of the facts most certain with regard to that disease; and it is also certain that it may be so even if all trace of foulness has disappeared from it, as far as the eye, the nose, or the palate can judge, the water clear and sparkling, and the presence of dangerous organic matter to be detected only by a chemical test. All this makes it extremely important not only that the removal of sewage from towns should be thoroughly accomplished, but also that we should look often and carefully to the water with which our houses are supplied, and assure ourselves of its purity. A new source of danger, however, has recently been discovered. Disease may enter our houses in the milk which we purchase, not only as the milk may have received infection from the air of the farmer's or dairyman's house, which may perhaps be possible in the case of scarlet fever and a few other diseases, but as it may contain sewage-contaminated water with which it has been fraudulently mixed. Several recent outbreaks of typhoid fever have been unquestionably traced to this source. The discovery that disease is apt to be propagated in this way, like many other discoveries, seems to have been made by more than one person about the same time, and having been made, it has been confirmed by new cases occurring from time to time in the towns both of England and Scotland.

The first case brought under the notice of the medical profession and the public was that which occurred about two years since at Armley, a township within the borough of Leeds; and it may be proper to state the circumstances of it, as the report made upon them by Dr. Ballard, medical officer of the Board of Health, to the Corporation of Leeds, carried conviction to the minds, we

believe, of all capable of weighing and examining evidence on such a subject.

Armley is badly drained, has no proper system of sewage, and abounds in privies and cesspools, by which the porous soil is greatly polluted. It is supplied with water from the Bramley reservoir of the Corporation of Leeds, and this water is sufficiently pure and wholesome; but there are also wells, to the water of which, polluted by sewage soaking through the soil, the prevalence of typhoid fever must, at least in part, be ascribed. In the summer of 1872 an extraordinary and sudden outbreak of typhoid fever took place. Mr. Colman, the Union medical officer of the district, had been called in the month of May to attend a dairyman, ill of typhoid fever, and he observed that all the families attacked with fever at the commencement of the outbreak got milk from his dairy. Dr. Ballard, whose assistance was obtained, in prosecuting the investigation which he was called upon to make, found that the district within which the epidemic raged, was around and near this dairy. The dairyman refused to give a list of his customers, but by house-to-house inquiry it was found that of the 449 houses within the defined district, 132 were supplied by him, or 29·4 per cent. of the families in the district; and that altogether 37·8 per cent. of the families which he supplied with milk, after he himself had been attacked with typhoid fever, were invaded by the same disease, whilst only about 5·3 per cent. of the other families in the district suffered from it. In his report, Dr. Ballard says:—

“Of course the question must arise, How was it, if the milk supply from the one infected source was the cause of the outbreak and of its spread, that 17 families not thus supplied suffered at all? And this question must be answered. The key to the solution lies in the observation that nearly all these 17 invasions occurred in the fourth week of the outbreak, and in subsequent weeks. During the first three weeks of July only one family not supplied from the infected dairy was attacked. Hence it is probable that the other 16 family invasions were instances of the extension of the fever through the medium of privies, sewers, drains, etc., in places where the specific discharges of some of the earlier cases had been deposited. It was scarcely to have been expected that, even on the cause which occasioned the earlier cases ceasing to operate, the fever would fail to spread for a time in a place so imperfectly drained and cleansed from excrement, and with a soil so permeable as that of Armley.”

It now occurred to Dr. Robinson, the medical officer of health of the borough, that it was very improbable the milk itself should convey the disease, but not at all improbable that the milk might be adulterated with water contaminated by sewage into which the specific discharges of the fever patients at the dairy had entered. And, accordingly, finding that the dairy was supplied with water by a well of its own, he caused the handle of the

pump to be chained up. This was done on the 10th of July. A sudden cessation of the epidemic took place within less than a fortnight thereafter, and as the period of the *incubation* of typhoid fever is commonly about eleven days, the coincidence of dates was strongly confirmatory of the theory on which the order for chaining the pump handle was issued. Dr. Ballard, in making his investigations, could find—as may well be supposed—no direct evidence of the adulteration of the milk; but he did find that, if the milk from that particular dairy was adulterated with the water of the well there, it was likely enough to be the cause of all the mischief; and the state of the well, taken in connection with the cessation of the epidemic when its pump handle was chained, left, he says, no doubt as to the part which it played in the production of the fever. The well received the drainage of a dunghill and ashheap, and its water was found to contain much organic matter of the worst kind.

How long is such a state of things to continue in Armley or elsewhere? It seems rather what might be expected in a half-savage country than in Britain; or what might be supposed to have prevailed in England in the fifteenth or sixteenth century, rather than in the present age of science and of social progress. Dr. Ballard, in the conclusion of his clear and very valuable report, earnestly calls the attention of the Corporation of Leeds to the necessity of great sanitary reform in Armley. It is of course impossible that a complete new system of drainage and sewerage—and it is evident that nothing less will suffice—can be completed in a few days, or even weeks; but we venture to suggest that much good might be done at once by the removal of all the dunghills, and the shutting up of all the wells the water of which should be found on analysis to be polluted by sewage, or to contain so much organic matter as to be unwholesome; and we doubt very much if a single well of really pure water will be found in Armley. Dr. Ballard's report may, however, be regarded as pointing out the duty of many other local authorities throughout the United Kingdom, as well as of that of Leeds.

As to the propagation of fever by sewage-contaminated milk, most probably deriving its dangerous character from water with which it has been fraudulently mixed, many cases have occurred since that of Armley, which equally show the reality and magnitude of this danger. In May of the present year, Dr. Littlejohn, the medical officer of health of the city of Edinburgh, reported to the Town Council that he had traced eight cases of typhoid fever, occurring in three houses in a very healthy part of the city, to the use of milk from a

dairy, a well connected with which was found on analysis to be much contaminated with sewage or other decomposing animal matter. The well was immediately closed, and we are glad to find that the civic authorities of Edinburgh pay respect to the advice of their medical officer, and are alive to their duty as guardians of the public health, in so far that they have closed up several dairymen's wells; a thing the more easily accomplished since the water supply of the city, although not all that could be desired, is tolerably sufficient, and the purity of the water unquestionable. How much need there is of such action, in all towns, the numerous recently reported cases of outbreaks of typhoid fever, clearly traced to the milk supply, will show. One of the most remarkable of these is that which has taken place, in July and August of the present year, in Mayfair and Marylebone, London, in a district in which typhoid fever is of rare occurrence, and of which the character is almost aristocratic. The following particulars are given in a recent number of the *London Medical Record*:—

“The outbreak of typhoid fever, to which attention has been drawn in Mayfair and Marylebone, is one of the most remarkable and severe with which we are acquainted. . . . . We are acquainted with about 165 cases occurring in 47 families inhabiting Wimpole Street, Harley Street, Nottingham Place, Cavendish Square, and the surrounding district, with outlying cases in Grosvenor Square, Portman Square, Grosvenor Street, Curzon Street, Hyde Park Gardens, and St. John's Wood. . . . . The cause of this severe epidemic seemed at first very mysterious, but a clue has been suggested which leads pretty surely through the maze. In more than one of the houses, the sanitary engineer has done his utmost, and the hygienic conditions were the best that could be secured. The consideration of the character of two outbreaks in his nursery, however, led Dr. Murchison to suspect his milk supply as being the vehicle of the poison. . . . This suspicion once started, the source of milk supply in 43 families reported by medical men as suffering from invasions of typhoid was investigated, and it was found that, although living in different parts of the town, 40 out of the 43 families were supplied from the same dairy. Many other circumstances have attracted attention. Thus the enormous majority of cases appear to be those of young children, who chiefly drink cold milk; while, of the few adults, several happen to be persons who drink milk much more copiously than usual. . . . . In a considerable number of the cases, the circumstances point with irresistible force to a contaminated milk supply as the cause of the outbreak.”

According to subsequent reports, the number of cases is much greater than that here stated, but they all seem probably referable to the same source. It is further reported that the dairy was supplied with milk from eight farms, and that, on examination, the milk from seven of them seemed to be perfectly pure, and that of one only to be contaminated, whether through adulteration with sewage-polluted water or otherwise does not appear.

A letter by Mr. Alfred Smee to the *Times* brings before us the

possibility of the contamination of milk from cows eating sewage-manured grass. From what we have seen of sewage-manured grounds, we are inclined to think that the grass cut from them may very often carry with it some amount of sewage water, and this may make it dangerous, although it would not otherwise be so. Even very bad organic matter, passing through two organisms—first a vegetable, then an animal one—might probably be so changed as to have lost its noxiousness. We look to vegetable organisms in particular for this very effect. Grass may, perhaps, be so excessively manured that the plants cannot assimilate all they get; but if there were much danger from this cause, it is probable that we should have heard of it ere now, as the sewage-manuring is certainly somewhat in excess in most places where it is practised. But Dr. Carpenter has come forward to say that no bad effects have been found to result from it at Croydon, and we have similar information from other quarters. Sewage-manuring for grass has been practised for many years at Edinburgh, but we have not heard that any bad effects have been traced to the use of the sewage-manured grass there. Sewage-manuring has also been practised for nearly three years at Merthyr-Tydvil, and the clerk to the Local Board of Health has written to the *Times* to say that not only have no bad effects of any kind ensued, but the sanitary condition of the town has been decidedly improved; and to the more abundant supply of good milk he ascribes in some measure a marked decrease of infantile mortality which he is able to report. Vegetables grown on sewage-manured land have also been largely consumed, and neither fever, diarrhoea, nor any other disease has been the consequence. It is possible enough, however, that cows fed on sewage grass may get with it a little of the sewage itself, and that from this bad consequences may result, as milk is a secretion apt to partake of the character of what is taken into the stomach. This point is worthy of attention, and the whole subject, indeed, deserves it, and we hope will receive it. If we cannot prevent dairymen from mixing their milk with water, we may at least make sure that they do not derive the water from a sewage-polluted well, and farmers' wells ought to be examined as well as those of the dairymen whom they supply.

J MONTGOMERY.

---



## THE FOOD OF MAN.

---

DIET may as fitly be classed under the category of Preventive Medicine as Climatology. To know what food to eat and how best it should be prepared are not foreign to the province of any person, whatever be his station. Ignorance of matters appertaining to everyday life is fraught with manifest mischief. Health is only preserved and strength sustained by careful regimen, while sickness is generally ameliorated and convalescence advanced thereby. Clearly, as has been pertinently observed, "The management of our diet needs the aid of reason and philosophy," a premiss which none will dispute.

Man, it is said, has no natural food, but was necessitated to discover for himself such products as he could conveniently procure and advantageously assimilate. This assertion seems plausible enough so far as vegetable production is concerned. According to the naturalist Buffon, even wheat, which proverbially constitutes the "staff of life," is purely a factitious offspring, like most vegetables used dietetically; but the art of agriculture, after the lapse of ages, has raised it to its present state of perfection. The like may be remarked of other products constituting human food, such as rice, rye, barley, and articles of a like species, none of which are discovered to grow wild, or naturally, in any part of our globe. The plants from which such edibles have sprung are so entirely different as to become unrecognisable; to all appearance no relationship exists between them. For example, the potato, which once formed—if it does not now—the staple article of alimentation with the Irish people, and on which they thrived so well physically, owes its origin to a small highly bitter root growing wild in Chili, Monte Video, and other places, where it forms a common weed in the gardens, bearing small tubers too nauseous for utilisation; and yet the potato is an esculent ever relished by the most fastidious palate; one, moreover, if we are to believe physiologists, that has added materially to our population. When first imported into England, during Queen Elizabeth's reign, it obtained its name from a vegetable then in common use, the *Convolvulus battatas*, or sweet potato, which, by the way (like the eringo root), enjoyed the reputation of possessing the power to

restore decayed vigour. Hence the allusion by Falstaff, in the "Merry Wives of Windsor:"—

"Let the sky rain potatoes, hail kissing comfits, and snow eringoes."

In like manner, the cabbage, savoy, and cauliflower are derived from the coleworth, an insignificant plant having but scanty leaves, while the delicious celery, after ages of patient labour combined with skilful cultivation, has been metamorphosed from an acrid root, the *Apium graveolens* of botanists. Similar progressive changes and improvements may be noticed in a variety of fruits, more particularly the banana, sugar-cane, peach, golden pippin, and plum, the last three of which, by the magic wand of horticulture, have been organically converted from the tough, coriaceous covering of the almond, the sour aloe, and the austere crab into their present form, colour, flavour, and richness.\*

The food of man comprises a variety both of animal and vegetable substances, some of which, although foreign to the object of nutrition, become innocuous when combined with others wherein the power of nutrition resides. Whether or not it was divinely designed that human nature should be solely sustained by means of animal or vegetable substances, has long been a fruitful source of controversy. According to Dr. W. B. Carpenter,† a well selected vegetable diet is capable of producing, in the multitude, the highest *physical* development of which they are capable; albeit he admits that the substitution of a moderate proportion of animal flesh favours the highest mental development of a people. Some weighty authors maintain that animal food was not resorted to before the Deluge, and then was only introduced by necessity, owing to the dearth and deterioration of vegetables arising from this cause. But the structure of the human teeth alone, were other important physiological evidence wanting, ought, I apprehend, serve sufficiently to silence all disputations on this subject. Man is undeniably *carnivorous*, even though he be what Broussonet opines, more *herbivorous* than otherwise in his nature. That man is *omnivorous* also is indisputable, hence he is capable of existing upon every species and variety of aliment. Truly, it would appear as though the Author of Nature himself had so constructed the human organism as to render, by gradual use, all kinds of food pretty equally accommodating to the stomach. If Xenophon is to be accredited, the ancient Persians subsisted upon watercress, which they prized as the best of vegetable productions. The British aborigines lived

---

\* Introduction to Pharmacologia, by Dr. J. R. Paris, F.R.S.

† Principles of Human Physiology.

on flesh and milk. We read of African tribes and Indian priests and philosophers subsisting solely on vegetables. Others, again, such as the inhabitants of Ethiopia, Scythia, and Arabia, take entirely to animal food. The Esquimaux is content with the walrus, on which he feeds voraciously, and whether he feasts with Apicius or, owing to a scarcity of his favourite food, starves with Epicurus, he keeps in an equable condition of health. The Alpine peasant rarely partakes of anything better than maize, chestnuts, and potatoes. The people of northern Europe, such as the Swedes, Danes, Russians, Germans, and English, eat much meat and use vegetables sparingly. Other nations, whether from poverty or choice, resort almost exclusively to a fish diet. On the authority of one writer, a hardy Highlander having but a few raw onions in his wallet, and a crust of bread or a piece of oat-cake, can travel an incredible distance for two or three days consecutively, and neither feel weary nor hungry. In one country you will find people living almost as rigidly as the Spartans; in another you will see them eat to repletion. Take Siberia, for example, where a man will devour twelve pounds of food daily without feeling gorged, boiled rice and butter forming the staple dish. Captain Lyon affirms that a denizen of this chilly region will wash down his repast with a gallon or two of train oil. Nor are the Siberians otherwise over-nice in their appetites. One delicate young damsel, we are told, took an irrepressible fancy to the eminent traveller's candles, and—tell it not in Gath!—ravenously swallowed them, wicks and all.

In primeval times milk and vegetables constituted the main supports of human life. As the world advanced and knowledge increased, the elements have been exhausted in order to administer to man's wants—now grown abnormal through the over-refinements of civilisation.<sup>1</sup> Although, to quote a trite apophthegm, "One man's meat is another man's poison," and as the regimen that would prove detrimental or destructive to the weak becomes necessary to sustain the robust, nevertheless, human life can generally be supported upon slender diet. Much, of course, depends upon climate and habits, as I have shown. In our peculiar climate an exclusive regimen of animal food cannot be adopted. Such would urge on the springs of life too rapidly, being from its nature unduly stimulating. A mixed diet, therefore, is adopted, being considered the most suitable and salutary. It is to be feared, however, that too much meat is consumed by our population; especially by the upper and the middle classes. Much of the animal food that is sold to the poor is diseased. To this cause has been traced the debility, cachexies, poverty of blood, and

intractable maladies of numbers who flock to the dispensaries and parochial medical officers during the summer months.\* It is a notable fact that when the supply of ordinary fruits fails, the artisans and labourers who are pent up in the workshops of large towns suffer severely in their health.

While growing youth needs a liberal supply of animal food, adults and aged persons require but a sparse quantity. In the one the excess of nutritive matter is consumed in the physical development, imparting strength without repletion. In the other it remains intact, but becomes eventually deteriorating, save the nutritive process be accelerated by much exercise and labour. One thing it is needful to bear in mind, *i.e.*, every substance capable of supplying nourishment to the human economy must previously have possessed life. Hence, whatever is analogous to the nature of the body to be nourished, and is susceptible of being changed into its substance, may properly constitute food.

When and what to eat are desirable matters for all persons who have arrived at maturity to know. Young people need to partake more freely of food than those who are fully grown, because their digestive functions are more active and their appetites more keen. Four meals *per diem* are not too many for young folk and those engaged in hard toil; for the latter, because fatigue dissipates in them what in the former becomes applied to the important purposes of growth. For ordinary persons three meals a day ought to suffice; that taken some hours after the dinner repast being very light. Some casuists have drawn a hard-and-fast line between appetite and hunger. They consider hunger the legitimate craving or expression of a natural want—appetite merely the freakish manifestation of an artificial desire. Be this as it may, one cannot deny that it is possible not only to cloy but to destroy appetite by injudicious practices. As has been observed: "The appetite of the luxurious glutton can hardly be roused by the spices of the Indies, while the ploughman or hunter returning from his daily labour finds a relish in the coarsest bread and simplest drink that might be envied by the pampered palate of the epicure." Of a certainty, moderation in eating and drinking is not only a virtue, it is an obligation of the highest kind.

S. PHILLIPS DAY.

---

\* Letter to Sir George Grey on the Cattle Plague and Diseased Meat.

---

FOREIGN POULTRY.—The declared value of foreign poultry and game, including rabbits, imported in the last eight months was £118,856, and last year £88,567.

## A GASTRONOMIC NOVEL.\*

---

WE have had Spiritist novels, Tory, Rosicrucian, Swedenborgian, and Evangelical novels; we have had romances consecrated to upholstery, and fictions that were nothing more than the elaborate prospectuses of highly progressive milliners, but this is the first drama played out amidst things edible and potable; the first wherein the actors are all ministrators to hunger and thirst, whereof the scenery is formed by mountainous piles of food and drink; and until one has read M. Zola's novel essay, it is difficult to imagine all the picturesque descriptions, and the amusing and instructive details to be extracted from such a subject. The *Ventre de Paris* is those vast marvellous central markets built under the Second Empire, and acknowledged by students of food questions to be the most perfect examples of order, thrift, cheapness, and general efficiency to be found in any modern capital. The curious types and trades ovated by the new markets were things of but narrow local knowledge a few months ago. M. Zola is the Columbus of the unknown world, and, by publishing his discoveries in the form of fiction, has increased his facilities for rendering the strange life he has studied in vivid pieces of word painting that would have been out of place in a technical work, for collecting all the picturesque points and curious features of his subject in one clear focus. It is the fortune of a political proscrip, escaped from Cayenne, that form the vehicle, the framework—the *excuse*, an etherial romancist would say—of this monograph of the *Halles*. The market atmosphere pervades the book from the very first pages. The first Samaritan the returned convict meets is a *marchande en gros*, the plump, kindly proprietress of one of those nursery gardens that abound in the outskirts of Paris; and the exile's first morning in the capital is passed on the great market place. In the grey dawn the chariots full of fruit, vegetables, meat, poultry, game, dairy produce, etc., file past St. Eustache, and take their allotted place. An inspector examines each number, and cries out, "Four metres here! ten metres there," allotting the spaces hired by the different wholesale vendors. These spaces are chalked out, and then marked by trusses of straw. The carts are unloaded by gaslight, the wares arranged

---

\* "Le Ventre de Paris," par Emile Zola. Paris: Charpentier et Cie.

with wonderful symmetry and promptitude; and then the retail buyers appear, and there is a pandemonium of barter, discussion, "chaff," and gossip in the centre of sleeping Paris. Men are snoring, stretched on enormous heaps of parsley, their heads pillowed on baskets of plums. "A child of ten dozes, with an angel's smile on her face, in the hollow of a mountain of *chicorée*." The pavillion fronting St. Eustache is for fruit and flowers; farther on there is one for fish and fowls; then for large vegetables, butter, and cheese,—six pavillions in all on one side of the market. On the other side there are four—for meat, tripes, game, etc. Long before daylight the gates of all these galleries roll back on their hinges, the iron *persiennes* that form the upper half of the market walls are raised, and the *revendeuses*, the women whose brass tickets show them to be possessors of stalls inside, bustle with their bargains from the *marâchères* without to the counters within, arrange their shows, and decide in groups the market prices of the day. All the neighbouring streets, from the Seine to the Boulevards, are galvanised by the radiating influence of the Central Markets. Every shop is open and illuminated. The streets are lined with stalls, held by poor peasant farmers of the Seine-et-Oise, and lit by flickering candles enclosed in lanterns of greased paper. Women are selling hot coffee and soup; the wineshops are open, and besieged by clamourers for grogs and the matutinal *petits verres*. A crowd environs a tin copper full of that ambrosia of early risers, *soupe aux choux* (cabbage soup), which is dispensed, with thin slices of bread, in large yellow mugs, to neat, cleanly city vendors, to nurserymen in blouses, to porters bent and greasy and stained with fruit, meat, and fish, to all the hungry prowlers of the city, who collect about the *Halles* because of their early animation and the fascination of their perspective of Gargantuan larders. Costermongers, greengrocers, corporals from Paris barracks, nuns from Paris convents, caterers from colleges, lycées, and hotels, appear at dawn, and carry off the flower of the market. Then the night panorama is over; the ordinary business of the day has begun.

The proscrip discovers his brother, who has inherited a flourishing establishment of *charcuterie*, has married and grown fat and prosaic, in an atmosphere of sausage-meat, potted viands, *foie gras*, truffles, lard, and bacon. Lean and hungry and disheartened, the exile is suddenly introduced into a world of plenty, a community of formidable appetites, of prominent paunches,—a world where fatness breeds a species of unctuous content; and thenceforth what story there is in M. Zola's book is that (as he says) of the Battle of the Fat and the Thin. All the interest of the tale centres in the

markets, all the characters are purveyors of poultry, vegetables, salad, meat, or liqueurs. In the midst of this veritable *Ventre de Paris* the long, lean malcontent takes his place as one of the inspectors of the market. Thus his angles are brought into contact with all the plump contours around him. He plots against the Empire, is betrayed by the entire quarter, which hates him instinctively, as the guests must have hated the warning slave at Roman revels, and is condemned and transported to Cayenne for the second time. Thus runs the tale; but it is not with the romance that we have to deal, but with its background, the market quarter. To accompany the new inspector on his rounds will be to obtain a good idea of the aspects and mechanisms of the *Halles*. The official must be at his post at six o'clock in the morning; the *criées*, or auctions, take place at that hour. The salt water fish are sold the earliest. Within the enclosures formed by the counters the fish are unpacked as fast as they arrive; there are files of little hampers, a continuous incoming current of cases, baskets, and sacks of mussels. The *compteurs-verseurs*, officials who verify the amount brought in, pluck a few handfuls of straw from each package, and with one or two deft touches dispose the contents on the counters in the most attractive fashion. Spread out ready for the bidders, showing marvellous contrasts and harmonies of colour, are had-docks; flounders; live cods; brets; grey coarse plaice; congers, muddy blue and slimy; thornbacks, with pallid bellies bordered with pink; dog-fish, with hideous heads like those of Chinese idols; and then farther on the finer fish, to each of which is accorded a separate slab of wicker work—silver salmon; rougher mullet; turbot; large dabs like lumps of clotted milk; tunny; barbels; soles in pairs, grey and golden; twisted herrings; gillbrads; golden mackerel; red mullet and roach; cases of whiting and smelts—coquettish little cases whence a faint odour of violets issues; and prawns, grey and red, in sacks; crabs; lobsters and *langoustes*, etc. In a tall species of turret, with windows open on every side, the collector of the municipal dues overlooks the auction. A little lower, on long-legged chairs, are perched two women who keep the books of sale for the factor. As the cryer throws a lot on to the marble counter, crying out the price put upon them, the two bookkeepers register the wares and bids; the municipal official calculates the dues; and the cashier, an old woman in another turret, prepares her piles of francs and sous. The noise is deafening. Some buyers make their advances by a wink, by a gesture; but a large majority bellow their bids in a voice as penetrating and discordant as that of the cryer. Beside the fruit pavillion is the

department for fresh water fish. Two large circular ponds, divided into compartments by iron gratings, receive crabs, carps, eels, white fish from England and Holland, gudgeons, perch, trout, the treasures of Scottish lakes, the bronzed, burnished produce of the Rhine. Fish have this much in common with horses: they appear to generally deteriorate the manners and morals of those who live long in their company. The *poissardes* form the worst, most turbulent class of market women. The frankness and peculiar piquancy of their phraseology are proverbial. They retain the classic bannanna headdress, the striped dress, the yellow *fichu*, the big gold crosses and earrings of the ladies who persecuted Marie Antoinette, and visited the court every New Year's Day in the time of Charles X. and Louis Philippe. They are the terror of inspectors; they have been known to duck offending officials in the fish tank; they occasionally hurl their wares in the faces of customers who have dared to pronounce a sole too stale. In the fish department and in the fruit, vegetable, flower, and butter pavillions, the vendors are nearly all women; indeed the markets are on the whole one of the largest gynæceums in Europe. M. Zola paints a veritable pastel of one of the fruit sellers:—"In the narrow shop, around her the fruits were piled high. At the back, on shelves, there were rows of melons, *cantaloups* rough with many warts, *maraischers* with patterns on their rinds like grey guipure. In the windows the finer fruits, delicately dressed, nestled in their baskets like the round and rosy cheeks of children! above all, the Montreuil peaches, with fine, clear reddening skins, and the southern species, yellow and sun-burnt. The apricots seemed the colour of amber against the moss. The cherries, ranged one by one, were like so many laughing mouths—those from Montmorency fat, jovial lips; those from England larger and graver. The common black hearts, nearly always crushed, the red and white hearts smiled together, half joyously, half dismally. The apples and pears rose with architectural regularity from beds of fern. There were the dwarf Api apples; the red and white Calvilles; the large Rambours; the blond and freckled pippins, rennets, and green apples; and near them the pears—butter pears, blanquets, pears of Messire Jean, and the famous duchesses, magnificent without, rather like balls of cotton within. Near at hand transparent plums were exhibited—the Queen Claudias, greengages, *prunes de Monsieur*; mirabels like large golden beads contrasted with sweet-smelling strawberries—wild, not garden-grown; for the latter always retain the odour of the watering-pot. Raspberries added their scent to this medley of perfumes. Tricolour ranges of currants, and tufts of filberts, lay in



heaps; and above them were baskets of luscious, heavy grapes, burnt to a colour of rust by Southern suns."

But the *Halles* have other than pleasant public aspects, such as this. The butter department is not calculated to inspire much pastoral lyricism. To avoid dust and heat the greater part of the dairy work is done underground. The cellars are hung with finely woven metallic screens—a precaution against fire. The gas lamps are few and far between. Long tables are lit by vent holes, opening on the street, and on those dressers, washed by a continuous stream of water, the butter—the *maniotte*—is kneaded in large oak tubs by bare-armed women. Pots of the different species of butter are at hand. All kinds of heterogeneous qualities are mixed in the *maniotte*, one correcting the other: it is the same process as that employed in the preparation of wines, and in another smaller jar there is a species of greasy, deep red liquid; that is the *roucourt*, and serves to impart to the butter a fine yellow tint. The butter women consider it an impenetrable trade mystery. It provenes from the seeds of the roucou, or achiotte, though not a few *marchandes* fabricate a *roucourt* of their own from carrots and mary-golds. The odour that pervades these underground laboratories assaults our nostrils like a deadly malaria; for on shelves, in cases, and in baskets, all bearing the maker's names, are perspiring and occasionally *living* representatives of every cheese-producing country in Europe. The market rats die stifled by dozens in this department, and contribute the spectacle of their corpses to the general attractiveness of the scene. Nor, albeit, less malodorous are the crypts occupied by the tripe vendors and butchers refreshing to any of the senses. In the pavillions above, the gutters run red; there is an eternal washing of livers brought in piles in immense waggons, of sheep's feet, fresh tongues, and large, solid bullocks' hearts. There are baskets of sheep's heads, which, set on inclined rails, are impelled by their own weight into the cellars beneath. Here the horror increases: there is an all-pervading smell of a charnel house; one's feet slip in small pools of blood. At five o'clock in the afternoon there is a public sale of bullocks' and calves' lights—a sale which is often attended by more than 300 butchers and cat's meat dealers from Paris and the environs. But, perhaps, the poultry is the most repulsive department of the market. The *reserves de volaille* are long dark galleries underground, lined by narrow cabins and cages, wherein the fowls are kept fattening. Each *marchand* has an allotted space, designated by his name inscribed in large blue letters. On the ground, fattening dung and refuse, are the larger birds—geese, turkeys, ducks, etc.

Above, in grated cupboards, are placed the smaller fowls, and the rabbits. The animals will not eat in the dark, and at all hours of the day the poultry men may be seen feeding their birds, with a candle in one hand. The *abattoir* for poultry is a subterranean gallery under the Rue Rambuteau. The feathers and down are sorted, and sold at prices varying from one to nine sous per pound. The pigeon department is in another part of the building. There are layers of planks around the vast chamber, and on them little boxes, wherein the pigeons are huddled together. At certain hours of the day a market woman appears, fills her mouth with water and seeds, and blows the food into the throats of the fattening birds.

M. Zola describes minutely the morals and habits of the market population. It is not only composed of the regular vendors and their customers. All kinds of vagabonds, bohemians, street arabs, and jail-birds fatten on the refuse of the *Ventre de Paris*. There are stalls where the scraps from ministerial feasts and restaurants are sold in "assorted plates;" there are livings to be earned without much expenditure of energy by the surreptitious collection of fallen fruits, half spoilt vegetables, odds and ends from the butchery and fish pavillions. There are men and women who have been born, have married and died, within the shadow of the *Halles*, old and new; and these natives are as a rule the most riotous, immoral, and ignorant citizens of the Republic. Their language is that of Rabelais, vitiated by an infusion of modern thieves' slang; their lives are lawless and bestial. But, nevertheless, the system they serve is one of the most efficient among those that minister to the material wants of Paris.

EVELYN JERROLD.

---

GAME.—According to a return presented to the House of Lords, there were sold in the United Kingdom last year, by licensed dealers, 1,641,960 head of game, 580,388 dead wild fowl, 702,830 hares, and 5,104,817 rabbits.

THE FOOD OF THE DUBLIN POLICE.—Dr. Nedley, medical officer to the Dublin Metropolitan Police, in his evidence before the Civil Service in Ireland Inquiry Commission (1872), the report of which has just been printed, states that the Dublin constables, in consequence of their low rate of pay, cannot afford to buy a good breakfast, and the result is that they eat voraciously at dinner, which is their only "mess"—two pounds of meat being sometimes consumed by one man. There is more meat, therefore, consumed at the dinners of the Dublin Metropolitan than in any other police barrack in the United Kingdom. The habit (Dr. Nedley says) of taking so much meat at a meal acts on the men injuriously, and they are frequently placed on the sick list in consequence.—*The Dublin Warder*.

## HINTS RESPECTING DIET.

Too precise rules as to diet, except in special cases, are of very questionable service. Generally they are found to be too irksome, and are cast aside or forgotten. Indeed it may be doubted, save in the exceptions referred to, whether they are really conducive to health; in some ways they will be even injurious, by frequently causing the mind to pay too much attention to the details and particulars of the subject, which though of the greatest importance, is not one that should occupy the mind beyond a common sense and justly necessary degree. Cornaro, a very rare exception, it is true, carried this preciseness to its utmost possible limit, but who has ever found success in carrying out his system? His case can never be an example except as to the value of acquiring the power of self-denial respecting those things which experience teaches us are not suited to us.

It is, perhaps, not too much to say that his system was full of errors, and contains some truly cardinal ones. He chiefly dwells on the limitation of quantity as being the most important point, but that was really only one of many, the absence of which would have rendered the limited quantity not only of no avail, but positively injurious. With all the advantages by which it was accompanied, with the most nutritious and digestible kind of food, with pure wine for drink, with a genial climate and every advantage that wealth could confer,—yet that there was a fundamental mistake somewhere was shown by the fact that once a year he was reduced almost to a state of dissolution, thus proving great want of reserved vital force. We think that it is easy to fix upon the cause of the annual sinking into feebleness. It was always before the new wine came in, which immediately revived him. The wine was probably not at that period very securely kept from atmospheric influence, and the result would assuredly be that before the year closed, ere the new wine came in, the principal portion, perhaps nearly all of the alcohol in the wine, was changed into acetic acid, which is lowering and depressing to the bodily power. Thus there were two causes at work quite sufficient with his limited diet to produce the serious effects that yearly took place; there was the withdrawal of one of the most powerful stimulants, alcohol, and

the introduction instead, of a depressing agent; the upholding influence taken away, and a casting-down one brought into action. Had his diet not been so limited, he would not have been at the mercy of such results from a change in only one of its elements. One case is known to the writer in which Cornaro's plan was adopted in England, even to precisely weighing the exact quantities at each meal, and the result was what might have been expected. It ended in complete failure, and every symptom of the disordered physical state for which it was taken was aggravated.

But though very precise rules are only of exceptional value, and quite impracticable for general use, yet there are broad and general rules and considerations respecting diet with which all might be acquainted, and by which all should be more or less influenced and guided. And, perhaps, one of the ways of attaining clear views on the subject is that of considering some of the errors in usual practice in life. One of the most prevailing mistakes is the living according to custom without any regard to its healthiness or individual suitability. In various districts of the country there are very different modes of living, some of them being moderately good, others very erroneous, yet in each case the inhabitants follow the local custom, good or bad, with almost rigid adherence; so it is also in different sections of society, each of which has some custom, either as to diet or times of taking food, which is allowed to rule with despotic sway. This error is specially marked in certain families and manifests itself in what may be termed a hereditary diet, the same kind of food, and mode of preparing it, continuing from one generation to another. If it happen, for it is a mere chance, to be good and healthy in its nature, well is it for such families; but if it should be faulty and injudicious, the whole race suffers the consequences, for the evil spreads into all its branches; children brought up to it naturally adopt and carry it on in their own homes, when they come to have them. And the family custom is blindly followed, in spite of ample warning in the complaints and general ill-health of the family race. Who has not known families apparently calculated to live in as good health and to as long a time as others, but of whom not a member is now left? yet a proper and wisely adopted diet would lessen the tendency to certain special diseases, and if persevered in might in a generation or two entirely eradicate such diseases from the family constitution. Another great error that very largely prevails, and it is to be feared—owing to quack, or as they are called, patent medicines—is largely increasing, is the placing too great reliance on the effects of medicines and ignoring the

effects of food. The great majority of people seem to have very little notion of the effects of food upon the health. Indeed, with respect to many, stupidity is not too strong a term to use. Persons who have had disordered health for many years, or a tainted constitution, one specially liable to some disease, will place all their faith on medicine, and never think about the continuous effect produced by their food. Many, indeed, will place the most implicit reliance upon one or two little pellets out of the doctor's round box, or a tablespoonful of mixture out of his bottle, while they never let a thought pass their minds on the effects that must be produced by the four to ten or twelve pounds of liquids and solids which they daily take. Medicine is to do everything, food nothing. Might not the medical faculty do a great amount of good to the general health of the population by paying more attention to the subject of diet? What they say to their patients is regarded with almost religious attention. Yet, too often, medical men will prescribe, and that, too, where the complaint is a constitutional one, and never say a word as to food, or make a single inquiry respecting it. It is not to be wondered at that in such cases the doctor finds the special medicine fail to produce the effect which other medical men find result. Homœopathic doctors have given far more attention to this most important subject, and with a corresponding degree of success. Why is it that some physicians and surgeons are so pre-eminently successful? They have only the same medicines to use as others, and it will not be presumed that their knowledge and intellectual powers are so far above their compeers as to produce such different results. It is because, like successful commanders of armies, they know the value of every detail and take distinct cognisance of them all, and among them they take that notice of diet which its importance requires. No doubt some special medicine has at times fallen into undeserved disrepute through the question of diet being neglected, and this error of omission has in those cases completely neutralised its effects. It is a well-known fact that young practitioners place great faith in medicine, while the more experienced place more reliance upon assisting nature by the proper ordering of the lives of their patients. So important is due medical attention to diet, that too great prominence and fulness cannot be given to any notice of it.

Another great and very prevalent error is the popular fallacy that to pay attention to the kind of food taken will lead to leaving off first one thing and then another till the stomach refuses nearly everything. The fact is that such attention, so far from consisting

in leaving off, consists in adding to the range of substances taken. No doubt persons may begin to leave off first one thing and then another, till an enfeebled, ill-nourished, and contracted stomach begins to refuse everything, and the denial of the things needful for the healthy exercise of its functions has led to a more or less complete loss of power, if not to positive disease. But this mistaken and most injurious kind of attention to diet has no more to do with a wise and due regard to it than a man drowning himself has to do with a wise and healthy use of proper bathing. The last error that we shall at present notice, is the very limited number of articles of which the entire diet of many consists, and those, too, generally of the same kind. Great numbers—it may be said the vast majority—live from year's end to year's end on one almost unvarying kind of food, any variation that there may be being so incidental and slight as to have no real influence in modifying the sameness of the food habitually used. This is one of the most injurious errors of all, and leads to a deteriorated constitution, enfeebled health, and a break-up of the body many years before its natural time. It causes entire districts, and even nations, where the mass of the people so live, to become stunted in stature, weakened in strength, and decayed in their general physical powers.

The physical well-being, and—always inseparably connected with it—the prosperity and social state of the individual, the family and the nation, are ever based on, and bound up with, a wisely ordered, sufficiently varied, healthy, and abundant supply of food.

E. Y. N.

---

The stocking of English oyster beds with American oysters seems to have proved a satisfactory experiment, judging from the following extract from a newspaper of Norfolk, Virginia:—"A short time since two English vessels, the schooner, 'Jane Hoad,' and the barkantine, 'Queen of the Isles,' arrived in this port for cargoes of oysters to be replanted in English waters. The vessels were loaded on Nausemond Ridge, care being taken to select small single oysters, and those from shoal waters being preferred as more likely to live during a long voyage, and better suited for transplanting. Mr. Russell, the agent for the English capitalists engaged in this trade, superintended in person the loading of the vessels, and expressed himself as confident of the success of the scheme. If successful in this venture, he says, the Company will send eight or ten steamers to Hampton Roads for oysters next season. Unusual care was taken in storing the bivalves in the vessels holds, some being placed on the bottom, and the rest on false decks. The cargo of the 'Jane Hoad,' consisted of 4,521 bushels, 121 of which were in barrels as an experiment, and that of the 'Queen of the Isles' of 4,816 bushels, 9,327 bushels in all." Gradually, and almost unnoticed, a trade is growing up which is destined to assume considerable importance.

## THE MINERAL WATERS OF BATH.

---

It is well known that Bath (called by the Saxons *Akemanceaster*, or the City of Sick Folk), has been from time immemorial famed for its mineral waters, possessing many healing properties. On the banks of the Avon are four springs, which for centuries have never failed to yield a constant supply of these thermal waters at a temperature of about 120° F. They were known to the ancients more than 800 years B.C., and long before the city was built sick people used to resort to the locality and build temporary dwelling places near the springs. An old tradition asserts that the Saxon Prince Bladud being afflicted with leprosy was, according to the barbarous custom of those times, banished from his father's court, and being reduced to earn his living in the employ of a swineherd gave the disease to the pigs under his care. The instinct of the animals led them to the hitherto unknown springs, whose healing waters cured them. Full of wonder at this result, the prince followed their example and found himself restored to health. The legend goes on to say that, in acknowledgment of his gratitude, he built the City of Bath. But history proves that it was founded by the Romans, whose love of bathing rendered it to them a favourite place of resort, as we have evidence in the remains of an old Roman bath discovered in 1755, on the site of which the Abbot's Bath was built in 1106, and afterwards the Kingston Baths, familiarly called the Old Roman Baths. For some time these formed a separate establishment, but within the last year they have been given up. Solinus, the first Roman who mentioned the waters, ascribed their qualities to Minerva, hence the city was called *Aquæ Solis*, or the waters of Sul-Minerva. They were afterwards used by Osric, Offa, Athelstan, and Edgar. In the thirteenth century a bath was provided for the special use of royalty. In later times Charles II., Queen Anne, Queen Charlotte, and the Prince Regent favoured the Bath waters, and it is too well known here to need mention how, under the auspices of Beau Nash, the place became of world-wide renown as a fashionable sanatorium. The first mention of the waters being taken internally is made in the sixteenth century by Dr. Jones. Many

opinions as to the chemical properties of the waters have been given. Dr. Guidott, in his quaint treatise written in 1725, states them to be vitriol, sulphur, nitre, and acid salt. Physicians of later date deny the existence of the sulphur, but most agree that they contain iron. Dr. Falconer, to whose interesting book I am indebted for much information, considers the components to be sulphates of lime and soda, chlorides of sodium and magnesium, and a small proportion of iron. The gases produced are nitrogen, oxygen, and carbonic acid. The water has no smell, and is only slightly distasteful. The glasses in which it is drunk are stained a bright yellow. In small quantities it is colourless, but in larger it is of a pale sea green tint, and has a pretty and sparkling appearance, owing to the carbonic acid. This gas is a powerful stimulant of the nervous system, and, applied in a gaseous form, is useful in cases of paralysis. The water is bottled for transportation, and used as a cold mineral water. Dr. Guidott states that it has been found most useful in the making of ink.

The arrangement of the baths are as sumptuous as any that can be met with at home or on the continent. They consist now of the King's and Queen's Baths, the New Royal, the Royal Private, the Hot and Cross Baths and a tepid swimming bath. Attached to the New Royal Baths there is also a swimming bath for ladies. For a first class bath the ticket is 1s. 6d., with 3d. for attendance; for a second class, 6d., with 2d. for attendance. The Cross Bath was once reserved for the upper classes, but is now only used as a cheap public bath. There are two pump rooms, the Grand and the Hetling Court. The former contains an elegant fountain which supplies water at a temperature of 114° F. A physician who had taken offence at Bath, having threatened to cast a toast into the waters, Beau Nash said he would charm away the toast with music, hence the origin of the Pump Room concerts. In former times there was the Lazour, or Leper's Bath, but no trace of it can now be seen. There used also to be a bath for horses, supplied by the waste water. The baths are specially efficacious for rheumatism. "In another week I shall be able to walk about; thanks to your wonderful waters," gratefully exclaimed a young lady who had arrived in Bath a helpless cripple a fortnight before. The temperature of the bath should not exceed 95° F. or 97° F. It is highly necessary to take advice before trying these waters, as where they are not suitable most injurious effects are produced. Recently, a lady taking them for weakness was the next day afflicted with a rash, though, in another instance, the same thing was cured by their judicious use.

EXPERTA.



## FARINACEOUS FOOD.

---

THE subject of food supplies forces itself on the attention of every head of a family; and the question is often a difficult one, even with those who are far from being of the poorest class, How to procure good and cheap food in abundance? It is a question, therefore, of national importance, affecting the welfare of multitudes and the general prosperity of the country. Let us endeavour to take a rapid survey of our food supplies, directing attention at present, more particularly to that important part of them—our supplies of farinaceous food—and to note the possibility or probability of their increase.

Our food is derived partly from the land and partly from the water,—chiefly from the former, although to no inconsiderable extent from the latter. It is the produce entirely of the animal and vegetable kingdoms. The eating of mineral substances, of which we sometimes read, is generally to be ascribed either to a morbid craving, or to the necessity of filling up the void in the stomach, when a sufficient supply of proper food cannot be obtained. In the rare cases in which substances usually regarded as mineral seem in some degree to possess nutritive properties,—as the *bergmehl* of Norway,—they owe their origin to the animal kingdom; a small store preserved through uncounted ages, but of very little value. Water is the only inorganic substance which can ordinarily be taken with advantage into the stomach, and great as is its importance, it is not properly to be regarded as an article of food.

Looking to the fact that our food supplies are mostly derived from the land, the possible improvement of the soil by further cultivation presents itself as the natural means of their greatest increase; and an increased productiveness of the soil of our own country is of greater benefit to us than any increased productiveness abroad, whatever facilities of importation we may enjoy. Britain, without cultivation, could only support a few tribes of wandering savages. Almost all that we derive from the land, whether of vegetable or of animal food, is due to the cultivation of the soil. Ancient as is the art of agriculture, it seems to be still only in its infancy; though never, since the spade or plough was invented, did it make such progress as in recent years. Even yet, however

it is evident to every one at all acquainted with the subject, that much remains to be done. There is a great extent of land in the United Kingdom capable of improvement and vastly increased productiveness, if this may not even be said of our best cultivated and most productive fields. The effects of liming, furrow-draining, and guano have been such as any one would have been laughed at for predicting within the memory of persons not yet old. There are large districts in which it has been very partial, and in which agriculture has remained almost stationary, farmers being contented to follow the footsteps of their fathers. Into the causes of this we cannot at present stay to enquire; the fact is enough for our notice. As to the reclaiming of bogs and fens, it has been only partially accomplished or even attempted; we have no doubt, however, that Chatmoss will yet become one of the most fertile districts of England, and the Bog of Allen one of the best corn-producing tracts of Ireland.

Few seem to think of the prodigious waste of land by hedges. Hedges are sometimes useful for shelter, and sometimes for ornament; but many of our hedges are neither the one nor the other. They are intended merely as fences; but they are the most expensive of all fences. They are not the mere lines, having length without breadth, which they appear on the plan of an estate. The best trimmed hedge consumes at least 3 ft. of land on each side of it, and many of our English hedges are far from being well trimmed. On the contrary, there seems to be a pride in allowing them to grow in wild luxuriance, exceedingly beautiful, no doubt, in the time of hawthorn blossom, and rich in food for birds during winter; whilst the roses on both sides of them delight the eye in summer, and the brambles yield more fruit than all the children of the neighbourhood can gather in autumn,—hawthorn, roses and brambles taking up, however, a large extent of valuable land. In many places old hedges may be seen, tall and large, which have ceased to serve the purpose of fences, and terminate sometimes in the midst of a field. All this is mere wanton waste. If it were possible to make a calculation of the arable land consumed by useless edges in Britain, the result would certainly be a number of square miles not less than a whole county of moderate size. The case is still worse, where there are numerous hedge-rows. Hedge-rows are often highly ornamental; and where this is the case, we should be sorry to see them cut down; but many of the level landscapes of England are spoiled by their superabundance, hiding all but the nearest fields, and presenting the semblance of a forest.

What are we doing with the sewage of our towns? It is still too

generally poured into our rivers, polluting them so as to destroy the fish; destroying also the amenity, and impairing the healthfulness of their banks. There cannot too soon be an end of this. Whatever is to be done with the sewage, it must not be poured into the rivers; and, by its application to land, we might increase the natural fertility of the soil, and save the cost of much guano. Our whole system of sewage requires revision. The large quantity of water, often procured with difficulty, sent down our sewage pipes, makes it difficult to turn the discharge from them to any account; whilst in the pipes themselves decomposition takes place, so that what flows from them is greatly diminished in value, and deleterious gases ascend and escape into our streets, or into the houses situated in the highest parts of towns, which are thus rendered unhealthy, notwithstanding their otherwise favourable situation. It may be doubted if Mr. Moule's earth closets are to take the place of our water closets; but some change is necessary, for the present system of water closets, besides many other disadvantages, is very wasteful. We must learn to economise, like the Chinese, all that can be made available for the increase of the productiveness of the soil; and it is not unreasonable to hope that we may yet find out how to do this, whilst at the same time our houses and our towns are brought into a better sanitary condition than hitherto.

The facility of transport afforded by railways has contributed much, and seems likely to contribute much more, to the increase of the agricultural yield of this country, not only by the more ready market afforded for produce of every kind, but chiefly by the conveyance of lime and other manures to districts, to which they could not be profitably brought by cartage. Along almost all our lines of railway, there has been a rapid improvement of agriculture, and a great increase of produce.

Commerce has done much to increase our supplies of food, and no assignable limit appears to the prospect of future advantage from this source. Employed as the people of this country are, to so large an extent, in manufactures and in mining, it is not to be supposed that the soil of the country itself can fully supply their wants. Whilst our industries, however, yield the money requisite for the purchase of food, there is no reason to doubt that we can obtain it. The famine in Ireland, in the terrible winter of 1846-47 was not owing to the want of food supplies in the world, nor even to the impossibility of bringing them in good time from abroad; but rather to the want of money, on the part of those who needed food, to stimulate commercial enterprise. So it was also in the famine in Orissa. There was plenty of food in other parts of

India, but the people of Orissa had no means of procuring it. Foreign countries are capable of affording us far greater supplies of food than we have yet derived from them; and our money devoted to the purchase of it would not only serve a good purpose by stimulating commerce, but would promote the prosperity of the countries from which our supplies were derived. The more varied these supplies are, and the more numerous their sources, the greater security we have for abundance at all times. A bad season in the south-east of Europe, from which we import much corn, may be compensated for by a good season in North America; and, even if all our ordinary corn supplies were partially to fail in any particular year, we might still have recourse to other quarters, if we were contented to accept other kinds of food, instead of the wheat on which we have been accustomed chiefly to depend.

There is one kind of grain—maize, or Indian corn—of which we use little in this country, but which, for cheapness and abundance, is unrivalled. North America produces great quantities of maize, and the produce there would be vastly increased in a few years, if there were much demand for it for exportation. It might also be obtained in any desirable quantity from many other parts of the world, as it succeeds well, both within the tropics and in temperate climates, wherever the summer is a little warmer and longer than that of the South of England. Cobbett's attempt to introduce its cultivation in England was a failure, because of the unsuitable climate; but it deserves all the praise that he bestowed on it, for its excellent qualities and great productiveness, which is many-fold greater than that of wheat, whilst its cultivation is also much more easy. We cannot wonder, then, that it is the common *corn* of American farmers, and that its cultivation has rapidly extended in parts of the world into which it has recently been introduced, so that it has largely taken the place of rice in some parts of Asia, and has even found its way far into the interior of Africa. It seems wonderful, however, that so little Indian corn has hitherto been imported into this country. An excellent article, known as Indian corn flour—"Maizena"—a comparatively cheap substitute for arrowroot, etc., has indeed, of late, become common in our shops; it is not really meal or flour of Indian corn, but a preparation from maize grown in America; and, although not intended to serve as a staple diet, is likely to become an important supplementary article of food. During the Irish famine, cargoes of Indian corn meal were imported, but the prejudice against it among the starving peasantry was so strong, that they seemed to feel as if their misery was insulted by the offer of it. Gradually and slowly this prejudice

was overcome, and we believe that the principal consumers of Indian corn meal in England and Scotland are now the Irish of the humblest class. There is good cause to regret that its value is not more generally appreciated in this country. Settlers in America soon learn to like it well enough; and so, after a little trial, would the people here. Good service might be done by the extensive circulation of a brief notice of the modes of preparing it.

Exuberant as is the fertility of many tropical regions, it is wonderful how little we are indebted to them for any of the chief articles of food. We, indeed, import from them all the sugar which we use, and considerable quantities of some kinds of starch, as sago and tapioca, of which the supply might readily increase to meet any imaginable demand. But we are not indebted to them for any kind of farinaceous food, except rice, which we import from the East Indies. For any other valuable grain, except maize, a tropical climate is unsuitable. It does not follow, however, that there is nothing else which might be imported with advantage as a substitute for our ordinary bread-stuffs. In many parts of South America, the ordinary food of the people consists, in a great measure, of what is called in Brazil *farinha*, which is the large fleshy root of the cassava or mandioc plant, dried and powdered, after the juice has been expressed. It is wholesome and palatable, and, if wanted for exportation, could easily be procured in great abundance, the cultivation of the plant being very easy. Tapioca is the starch of this root, prepared in a peculiar manner; but in nutritive value and fitness to serve as a principal article of food, it bears about the same relation to *farinha* that the potato starch does to the potato itself. It seems worthy of consideration, whether an attempt should not be made to introduce the South American *farinha* into our markets.

The possibility of importing the fruit of the plantain also deserves consideration. It is a common substitute for bread in the West Indies, and might probably be brought to this country in a perfectly fresh state, being less liable to suffer injury during the voyage than succulent fruits. The productiveness of the plantain far exceeds that of any other plant cultivated for the supply of food to man; and, if the possibility of importing the fruit in good condition could be established, there would be a new stimulus given to industry, and a new source of wealth to the West Indies, whilst we should know how to procure at any time, abundance of good and cheap food.

J. M.

---

## NEW FRESH-WATER FISH.

---

THE varieties of fresh-water fish indigenous to this country are likely to receive reinforcements in the shape of a supply of fish, new to our waters, from Germany. For some years past several of the Goldschlei, or Golden Tench, of Prussia, have bred in England, and it is established beyond a doubt that they will thrive well. They are a handsome fish of a bright yellow colour, lighter towards the belly than on the back, and are very good eating; they look almost too pretty to kill and cook. They attain to a considerable size, many specimens in England now weighing two or three pounds.

The Spiegel, or Looking-glass Carp, also from Prussia, is the second of the new comers. In Mr. Frank Buckland's museum at South Kensington can be seen some small living specimens, which eat freely and give every promise of succeeding in our climate. They range up to seven or eight pounds, or even more. There is a plaster cast of one weighing six pounds, and measuring 20 in. long by 5½ in. at the deepest part. They are an exceedingly pretty fish, having a row or two of large bright scales on each side, which glisten and shine like burnished gold—hence their name of “looking-glass” carp.

The third kind of fish is perhaps the most important, combining, as it does, the natures of the pike and the perch. It is called the *Perca lucio perca*, Zandr, or Pike-perch; and though it would not do to introduce it into rivers where there are more delicate and valuable fish, it will probably answer well in ponds and streams where our pike abound. Some specimens were brought over alive the other day, but they had been somewhat neglected *en route*, and died soon after arrival. This fish is capital eating, and grows as large as our common pike.

It is a pity that the food resources of our rivers and lakes are not more abundantly developed and utilised. There is no reason why a vast amount of good food should not be procured from this source, would our housekeepers and cooks only overcome their prejudices against fresh-water fish, and learn some good modes of cooking them. Some kinds require to be kept a few days in clean running water, in order to prepare them for the table, and take away the earthy flavour which the flesh of many of them undoubtedly possesses. It is of no use to introduce new edible fish

for the sake of giving sport to anglers; we wish to increase the food of the people, but to do so is useless, if the people will not make use of that food. We trust that the efforts to acclimatise these new fish in England will prove successful; and that the progress which fish culture is making will bring into greater prominence the hitherto despised, but valuable and unfailing supply of food that might, with care, be procured from the waters that abound throughout this country. Meat at 1s. per lb. is far too dear; salmon ought to be 3d. per lb.; oysters are sold at a very little lower rate than that which is said to have been obtained among the ancient Romans for mullets, when Juvenal says:—

"Mullum sex millibus emit  
Aequantem sane paribus sestertia libris."

Six scanty pounds the mullet weighed,  
Six thousand sesterces\* the wise man paid.

When the prices for fish and meat fall to half their present rate, we may possibly have an excuse for refusing to eat fresh-water fish; but even then such a waste of food would be unjustifiable. How much more so is it, then, while provisions of all kinds are so dear.

The Chinese set us an example, which we should do well to follow, in the matter of fish cultivation. The waters of China rival those of this country in the richness of their productions; but the inhabitants cultivate all possible kinds of fish. It has been argued that if the Chinese eat birds' nest soup, we might learn to do the same. But the Guamo Indians of South America eat earth, and if we are to imitate the one just because they set us the example, we ought, then, to imitate the other as well. Fish, however, are given us to be eaten, and if we cultivated all our fish, we should have no need to venture on birds' nest soup or light clay cakes to complete our bill of fare.

Mons. d'Abry de Thiersant, Consul General of France in China, relates that in three years he collected specimens of no less than a thousand different varieties of fish in the rivers and seas of that country. But with all this wonderful natural abundance the Chinese have been sensible enough not to recklessly waste, but carefully augment, their ready-found supplies. There is a Chinese motto to the effect that the more fish in any country the more men. Since a nation's greatness is measured, in part, by its numbers, that should be an inducement for us to follow John Chinaman's example; or, if we reverse the saying, it is undeniably true that the more men there are, the more fish are required. Let us teach the Chinese the use of steam and electricity: we may do worse than learn a lesson from them in the matter of fish preservation and culture.

C. E. FRYER.

---

\* A sestertius = nearly 2d.; 6,000 sesterces = nearly 50s.

## HOUSEHOLD ECONOMY.

---

HOUSEHOLD economy depends not only on great things, but concerns itself with all kinds of odds and ends—with the scraps that may be made serviceable inside the house and outside the house, with all the many and sundry uses of which every object is capable during its working life, and in every part of it. As a cocoa palm can be turned to all kinds of use in a tropical hamlet, so every joint of meat that comes into a house has a long story of rightful service; but unfortunately it is not always the moral uses which are looked after and turned to profit by the good housewife, as those of material objects. Her dripping is worked up in the house in pleasant shapes, and none but the waste fat goes out of it, and is then sold for the behoof of her pocket; but how about the chubby-cheeked urchins who have eaten the dripping toast with relish; how about the comely girls? Much of their schooling goes to waste with a carelessness that would set a sharp tongue wagging, if it was shown in the kitchen.

Even in a workman's house, where everything is carefully bestowed by the wife (and it is hard work to do so), that which has an immediate money price is more regarded than that which has not. A woman lays out her week's money from the salary, the shop till or the wages, with the most careful eye to the greatest benefit, even from the uttermost farthing. She looks, indeed, that Robert and Mary shall have all the lessons that are bargained for in the school teaching, and shall not be cheated into extra holidays for school children and school teachers; and, when the satchel is brought home, she cares whether the books are neat, torn, or dogseared, but she has no weight or measure for that which is brought back in the knowledge-box, and which ought to be made to bear fruit in the house, though she understands what has been done in the sewing class.

She has an unpleasant surmise, and so has the father, that though folks cannot well get on without reading and writing, that which is taught in school is of small practical worth in the boy's after-trade or calling. This must be so, because schoolmastership in England has been very little of a craft up to this time, and the schoolmaster has had as little thought of what he ought to



teach as the children or fathers of what is to be learnt. Hence the neglect of so many common and needful things which can be made serviceable in daily life. From want of knowledge of their remote application, many branches of teaching that have an immediate practical bearing on the habits of the child are treated as outside matters or accomplishments; and too often the moral uses of all these things have been left out of sight.

Singing is not only good for psalm-singing, but it is good for training and discipline; and yet, although its value is so well seen in the infant school, it seldom gets beyond it. There can, nevertheless, be no reasonable doubt that, according to the nature of the human mind, singing acts, not only as an art, but acts in its public exercise by bringing together, in concert and harmony, a number of minds unconscious of the influence. Hence results a training of one portion of the faculties of the mind to common and united action for order, the basis of co-operation, whether in the senate or the political association, the workshop, the trades union, or the household.

Drill is more material in its operation; it works directly on the body and the limbs, exercising a number of muscles; while singing brings into play but few of these, though acting largely on the lungs, and also on the nervous system. The special discipline of the drill on individual and concerted action must be very valuable.

Drawing, again, put off to the last, should begin with the youngest child, and should always include some drawing from natural objects—a subject on which great ignorance prevails. It is well to offer these remarks, because very few, and particularly amongst the humblest classes, have ever been taught drawing as an early educational process. It embraces the drawing with chalk or charcoal, and not necessarily with pencil and paper, of common objects, apples, carrots, potatoes, of elementary forms of lines, and circles, and letters, which become a part of drawing. They put William Sykes in the way of doing to some profit what it is in his nature to do on a park paling or barn door, to the detriment of their appearance.

All these matters of drawing, drill, and singing, if duly applied in the schooling of earliest childhood, will powerfully help in forming habits of value in the household and throughout life. That first law of Heaven, Order, is especially cultivated, and comes into the households wants at every hour with boy or girl. To go a little higher, there is many a tradesman's household which begins the morning in dirt, and keeps to it. True the meat is of good quality, of fair price, and well cooked; but there is wanting the higher enjoyment

of real comfort. The table is perpetually untidy, and the homeliness that attaches itself to each inmate is that of the pigstye.

This may not be altogether the fault of the housewife, who may yearn for tidiness ; but her own eye and hand are untrained, nor have her husband or the children better habits, mental or muscular. In the first place, they are perhaps ungainly. She or her maid throws down the knives and forks after a fashion, and there is an accustomed place for everybody ; but the organisation is that of individual disorder, and by the end of the meal a clean table cloth, that was badly laid at first, is unfit for any invited guest. Tom's dirty knife has been here, and Susan's dirty spoon has been there, and so it is throughout the day at bed and board. The poor woman works hard, but when she makes the beds she leaves them as untidy as she found them, and does not put by the things that are left strewn about the floor, for which there is no nail, and which nobody would hang up if there was one.

The household is the groundwork, after all, of teaching. It begins with the mother as the first teacher, as the earliest and greatest mistress of thought and speech, and the school can never be more than a helpmate, unless to a widowed home. The school, with all its clergymen, its Bible readings, its young lady Sunday teachers, and its elderly lady patronesses and scolders, cannot teach morality and religion as the household ought to do, and seldom replaces or displaces its good or evil teaching. The school must nevertheless make its way into the house, and make its way felt, and that is by acting with it, by going with the grain, not against it.

It is in the lower rather than the higher branches of training that this harmony of action most truly consists. It is a very good thing for the school to send home Tom with his copy book, but a better still if he can be sent home so as to give as little trouble as may be and to be helpful as an inmate. Now, an untidy child makes trouble and work, and the hands are busy in scattering dirt and slovenliness, which should otherwise be applied to make more comforts. The schoolmaster or mistress may set the child to read out of the spelling book lessons on the worth of order, cleanliness, and tidiness, but these never tell like the ingrained habits, which are the steady result of slow and constant practice.

Drawing by training the eye to observation improves one faculty, and by training the hand to the careful record of observation it cultivates order. The child who is taught to know what a straight line is and what are parallel lines, can judge of straightness and parallelism, but not without training. The girl so taught will make none

the worst stitcher and sewer, for she will better understand common work, and be readier at fine work. She will be earlier prepared for cutting out materials and for a knowledge of form. She will lay the tablecloth and set the things straighter and better. She will clean the room in a more orderly way and so will she make the beds. In the kitchen she will cut bread carefully, and vegetables straight and square enough to satisfy all the philosophy of Laputa, and with practical comfort. She will make what she has to wear look better and more tidy, and having a sharp eye for rags and tears, she will keep her clothes more carefully. She will perform less work in doing disorderly things twice over, and the more work in affecting what is truly useful.

The world is slow at perceiving that a girl thus taught may make a better housemaid and the better do housework. A great difficulty in large schools is that they cannot be made good training places for cooking and household work, but their very constitution gives them advantages for *maturing* those habits which are the groundwork on which special knowledge is to be applied.

This knowledge of childhood, this habitual and instinctive practice, is of service through life. The boy who is made more orderly at home becomes more useful to himself and others throughout his career. It is a great qualification to avoid giving trouble to others, because it is emancipation from dependence, and a step towards independence. He who wants much, particularly of small things, cannot well be independent. Cobbett was quite right in his empiric rules for independence and in recommending economy of servants, for he is the greatest master who is master of himself rather than of many servants.

What a sight is that of soldiers encamping! Each man suffices for himself and gives no trouble to others, but helps all. There is a regular and systematic co-operation, tents arise on the moorland, food is being cooked, and in a short time comfort reigns around with a feeling of security, and at night each man sleeps under canvas as soundly as though no enemy were nigh. This may be seen even with well trained Tartars. They come upon the ground, the horses and camels are hobbled, the girls go out to seek water, the women make bread in their kneading troughs, the boys gather wood, and a wandering horde has by sundown become a settled community.

In all schools there should be so much of humdrum physical work as will fill up time, and not strain the brain, and thus the mental profit will be the greater. The workshop succeeds the household, and the boy who has sat down to a well ordered dinner table

at home, and slept in a tidy bedroom, will be steady in the factory, and will keep his tools and bench neatly. Each thing will be in its place when wanted, and be put away when not wanted; so the time of himself and others will be saved. His apprenticeship may not be really shorter, but it will lead more rapidly to proficiency. He will have more fellowship, will be less ready to grumble or quarrel with his shopmates, and more eager to help.

These are qualities on which reading and writing will not sit worse but better; and yet, instead of engaging all time, they may be taught in half-time. Indeed, it is not the time given to learning with which we ought truly to be concerned, but with the real result obtained. It is like fattening an ox, where it is of no good reckoning up the pounds of cake put into him, but the pounds of meat and fat which have been grown on his carcass; the proof of the pudding is in the eating, and the proof of schooling is in what is really learned.

We are still far from having a sufficient supply and degree of teaching power to get the full effect, and we are obliged to put one teacher to scores of children. It is good, then, to employ part of the school time in those pursuits where one teacher can deal with many; this is particularly the case in drill, for one helps another, and a fault shows itself at once in what ought to be the straight line. In music this is attainable to a great degree, and it can also be effected with drawing, for one master can set the class going; still with drawing, much depends on the faults being pointed out to each learner.

In fact the whole matter resolves itself into obtaining practical results from practical objects, availing ourselves of the small uses even of great things, and making our charity begin at home. Teaching begins with the feeding of the baby, for the mother teaches it even to feed, and teaching begins at home. It should be combined with the home and brought back to the home through life. The boy should become sailorly, workmanlike, and soldierly, and the girl thrifty and a good housewife.

H. C.

---

**SCHOOL OF POPULAR COOKERY.**—At the International Exhibition Mr. Buckmaster recently called attention to Australian Meats and the way to cook them. He has shown that the prejudice against these meats was ill-founded, and that they contained all the requisites of first-class meat, save that they had lost a little in flavour from the high temperature to which they were necessarily subjected. In other respects they were as nutritious and as good as English meat, while they were certainly not much more than half the price—a circumstance of great importance at the present day.

E E

## WINE AND BRANDY.

---

EVEN by the opponents of fermented drinks wine and brandy are admitted to possess some important medicinal properties, whilst a large majority of medical men frequently recommend them as necessary stimulants. In fact their administration to invalids is so generally sanctioned by custom, and so much encouraged by those regarded as authorities in such matters, that it has become a recognised part of the business of the wine merchant to provide suitably for those who lack the blessings of health. Such being the case, the first care of the merchant is to procure articles of undoubted purity, so carefully matured as to be free from properties which, though scarcely injurious to persons in health, are likely to prove so to those whose condition demands caution as regards each article of food and drink provided for them. The task of procuring wines and brandies suitable for invalids requires considerable experience in order that the purchaser may guard against the many inferior qualities in the market. An idea prevails that wine in bottle is superior to that on draught; but this is not necessarily so, as if wine is allowed to remain in the wood long enough to work off its superabundance of those fruity properties which are found injurious to a delicate system, it will, if of good quality in the first instance, become quite free from properties which cause acidity. When treated in this way old wine in the wood is often superior to that in bottle, possessing more strengthening properties, although sold at a lower rate. So much difficulty is experienced in procuring really good draught wine that wine in bottle is almost generally preferred, although frequently at a disadvantage. The remarks applied to wine are equally applicable to brandy which often arrives in this country in bottle, and is styled "old," whereas, in frequent cases, it is of the previous year's vintage only. Amongst those who have undertaken the task of bottling wines and brandies imported by themselves may be mentioned Messrs. Pownceby & Co., of Oxford Street, who supply at moderate rates old port and French brandies, the purity and genuineness of which are secured by the simple but practical means adopted by the firm, viz., the direct importation, bonding and bottling of the specialities with which their name has become associated. It is to be hoped that this practice will be more generally adopted, as the public cannot fail to be benefited by it, the *desideratum* of combined excellence and cheapness being thereby likely to be attained.

## MARKETS OF THE MONTH.

---

THE course of events marches fast surely to a climax; for famine prices caused rather by increased consumption and expense than by a diminution of supply, loom certainly in the not far distant future of the forthcoming winter. Our harvest is an average good one, but the anticipation of a poor yield in France and Italy is sufficient to counterbalance any good effects which the favourable reports from Hungary, Russia, Canada, and the United States, are calculated to cause in our corn markets. A steady upward tendency in value for good quality wheat has been and is still the rule. Millers in most parts of the country have raised the price of flour twice within the month, and the bakers have, of course, quickly followed suit as regards the homely quartern. There appears to have been a considerable disease in the corn this year, and the wet weather at the commencement of the month, being favourable to the spread of this disease and stopping the getting in of the corn, has had a great deal to do in keeping up the price of wheat. Bread is dearer, and so are coals, and the prices for both are firm; therefore, these being two of the principal necessities of life, I fear hard times must be prognosticated for persons with fixed incomes. To those whose incomes are as elastic as the times in which they live it makes but little difference whether the necessities of life are ten or twenty per cent. dearer, because in such a case their incomes are also ten or twenty per cent. larger; but there are some who will have to bear severe strains and greater hardships than usual this winter, especially if it should be a severe one, as the abundance of hips and haws, nature's almanack, appears to denote.

Sugar remains cheap; the coffee market is buoyant; the tea market is steady; the quality of the yield in China for this year appears quite equal to the average of the past few seasons. The "Cathay," which arrived in August, brought a cargo which was disposed of at prices which were lower than those of past seasons; the following are the prices:—Pakling, 1s. 6d. to 2s.; Sayune and Aukoi kinds, 1s. 5d. to 1s. 11d.; medium Kaisow, 1s. 8d. to 1s. 11d., fine, 2s. to 2s. 3d., finest and extra, 2s. 4d. to 2s. 6d. "The Singapore," another teaship, has been lost, which makes, says the report I am quoting, "losses equal to 46,000 chests of first crop leaf, and will have an important bearing on the supply of good tea later on this season."

Reports from the hop plantations both at home and abroad are favourable, and the value of the plant bids fair to be increased considerably, for it is stated that the stalks, which have hitherto been thrown away, are, under a new process lately introduced by Mr. Denis, and about to be worked by the International Patent Pulp and Paper Company, Limited, now becoming available for the manufacture of paper of the finest quality.

There is a moderate supply of meat on sale. Trade is dull, and prices for mutton will be found to be a little lower than for the corresponding period of last year. Potatoes do not seem to be much diseased at present, prices are from 4*l.* to 6*l.* per ton. New lemons are in market now, prices are high, from 5*s.* to 6*s.* per chest. Nuts are now coming in, Barcelona, 18*s.* per bushel; Brazils, 20*s.* to 22*s.*; almonds, 20*s.* to 22*s.*; walnuts, 22*s.* to 24*s.*; Belgian, 7*s.* 6*d.* per basket; cocoanuts, 28*s.* to 32*s.* per hundred; filberts and Kent cobs, 1*s.* per lb. Lisbon grapes, 17*s.* to 22*s.* 6*d.* per box; Lisbon tomatoes, 8*s.* 6*d.*; Oporto onions, 10*s.* to 11*s.* The season for Hambro grapes is reported as most favourable. Mushrooms are very plentiful, whole truck loads having been sent away from Anglesey this season. Hothouse pines are making from 8*s.* to 10*s.* per lb.; hothouse grapes, black, 3*s.* to 3*s.* 6*d.*; white muscats, 3*s.* 6*d.* to 5*s.*; Jersey black, 1*s.* 3*d.* to 1*s.* 9*d.* per lb.; peaches, 8*s.* to 12*s.* per dozen; nectarines, 6*s.* to 12*s.*; melons, French, Cadiz, and Denia, from 1*s.* 6*d.* to 2*s.* each, hothouse, from 3*s.* to 6*s.*; plums from 8*s.* to 9*s.* per pad; damsons, 7*s.* 6*d.* to 8*s.* 6*d.*; pears, Williams, 9*s.* to 10*s.*, Hazels, 6*s.* to 6*s.* 6*d.*, per molley; French pears, in cases, Duchesses, 6*s.* to 10*s.*, Bon Louis, 8*s.* to 10*s.*, D'Amalise, 6*s.* to 8*s.*; apples, pippins and ribstones, 7*s.* to 10*s.* per molley; cooking, 4*s.* 6*d.* to 5*s.* per bushel; English tomatoes, 5*s.* to 6*s.* per pad. It is a good season for apples, which will be plentiful and cheap. Capsicums are making 1*s.* 9*d.*, chillies, 2*s.* 6*d.* per hundred. Celery is in market at 20*s.* per dozen bundles. Oysters are dearer this year, and supply at present is short, the demand also is limited. Cod is good; soles are getting dearer, as also are fish of all kinds just at this season.

Partridges are making, old, 3*s.*, young, 6*s.* per brace; grouse, 4*s.* 6*d.* to 7*s.* per brace; hares, 3*s.* 6*d.* to 4*s.*; leverets, 4*s.* to 5*s.* 6*d.*; fowls, 3*s.* 6*d.* to 4*s.* 6*d.*; chickens, 2*s.* to 3*s.* 6*d.*; ducks, 2*s.* 6*d.* to 3*s.* 6*d.*; geese, 7*s.* to 9*s.*; black game, 3*s.* to 4*s.* each; rabbits, 1*s.* 6*d.* each.

*September 21st, 1873.*

P. L. H.

## NOTES OF THE MONTH.

---

IN these days, when almost every article of food has attained a price heretofore totally unequalled in the annals of our country, it is not too much to expect that for our hardly-earned money we should obtain these articles pure and unadulterated. With the large increase in the prices of all kinds of provisions, no proportionate rise has taken place in the labour market; and, therefore, when the working classes are deprived of the power of purchasing provisions in anything approaching quantity, they should at least be met in all fairness, and be allowed to retain as compensation a just and proper share in quality. The prevalence of adulteration should long since have attracted a large share of public attention, whereas it is but just commencing to form a topic of interest in the classes of the community thereby affected. Cases of adulteration have for some time past been figuring in the courts of justice, and nowhere more frequently than in the Irish metropolis. The mania, for such it truly is, is not alone confined to our large cities and towns, although the most flagrant frauds are from time to time perpetrated in our largest and best establishments. If we take, as an instance, the prevalence of adulteration in the north of Ireland, we observe that Dr. Hodges, the public analyst for Belfast, out of 130 specimens of food and drink submitted to him for analysis, found 33 to be adulterated or unfit for use, while 19 persons have been prosecuted, and fines amounting to 26*l.* inflicted, since July, 1872. Within the past three months alone, 41 analyses have been made, in 20 of which adulteration was detected. The free addition of water appears to have become a very popular mode of adulterating buttermilk, and out of nine specimens of mustard submitted to Dr. Hodges, not one was found pure, all being mixed with flour and turmeric. In every case of adulteration the crime is a very grave one, and one deserving rigid punishment; but there are crimes and crimes, and in the latter we would adjudge certain adulterators to cast in their lot, pending the infliction of the stripes they so well deserve. We may make special reference to petty dealers, who obstinately persist in administering to the public a mixture which they call spirits, but which is in reality nothing more than a species of slow but sure poison, thus leaving the trade in the hands of fraudulent vendors instead of respectable men, who could give still more satisfaction were they left an undivided trade. It is most absurd to suppose that out of legitimate profits more than a limited



number of spirit retailers could find sufficient business to occupy them in small towns; and when we take into consideration the licence, taxes, house rent, and the many other expenses connected with these establishments, we may well inquire how it is that so many thousands of publicans and spirit dealers can not only keep their families in comfort and ease, but actually increase their hoards, and store up a competence for declining age. Whisky, rum, gin, and brandy are drinks constantly adulterated, and in no country more so than in Ireland; but, thanks to the vigilance of the authorities and the untiring exertions of the analysts, we look confidently forward to a time when the crime of food adulteration will have become a thing of the past; and then, and not till then, may we expect to procure food which, while of the best quality, will be sold at a proportionately fair price.

---

ACCORDING to the *Globe* we have but to take a walk round suburban London in order to see at a glance where cholera will find its stronghold. We have to notice "the diminutive cistern which, perched on a projection at the back, looks more like a bath, for the convenience of cats on the tiles, than a receptacle of water for human consumption." The experience of our contemporary is that of thousands of the inhabitants of the metropolis, who will readily enough endorse the complaints it gives vent to. "If cholera breaks out," continues the writer, "the first impulse will be to fly to the old *bête noire*, the water company; but no water company on earth can give supply where there is no accommodation, any more than they can pour Niagara into a teacup"—of course not, but however defective the arrangements for receiving the supply, it would be well if we could always depend upon such a quantity of water as would fill the "teacup" cisterns so ridiculed by our contemporary. Unhappily, it not unfrequently happens that "the boot is on the other leg," the accommodation for receiving a good supply being adequate enough, but the supply not being forthcoming when wanted, the same, for reasons not always as clear as daylight, having been "cut off." This is a point of equal importance with the inadequate accommodation in respect of cisterns, etc.

---

WITH reference to the recent outbreak of typhoid fever and its alleged causes, a curious letter has appeared in the *Times*, according to which it appears that sewage irrigation is in great use in the most cultivated districts of China. The sewage matter, which is described as an "odoriferous compound," is carried to the fields in buckets, and, after being further diluted, is "liberally applied, not

only to the earth, but is poured over and into the growing cabbages and other vegetables which form a staple article of the daily food of all classes of the people." As no ill effects in the shape of typhoid fever have ever been traced to this practice the writer of the letter in question proceeds to say that "If vegetables so raised can be daily eaten with impunity, it is difficult to conceive how the obnoxious matter of sewage can be conveyed with ill effect indirectly through the medium of milk to the consumer." This, perhaps, is capable of explanation when it is remembered that there is scarcely an analogy between cabbages and other *vegetables* and milk which is an *animal* product. Still it is wonderful that cows should *indirectly* convey to human beings the germs of a horrible disease, at the same time experiencing in themselves no ill effects from *direct* contact with matter declared to be poisonous!

---

CONSIDERABLE amusement and instruction may be derived from a perusal of the various reports of police cases arising out of the Adulteration Act of last year. Not long since a grocer residing in the Borough was fined five pounds and costs for having sold mustard mixed with turmeric and flour. The fact that the defendant's wife was not used to serving in the shop was not considered a good defence; hence the decision. It seems strange, however, that whilst the defendant in this case was *mulcted* in the mitigated penalty of five pounds (twenty being the maximum) another offender of the same class whose defence was scarcely less amusing should have been allowed to escape upon payment of twenty-two shillings, this including both fine and costs. The numerous analyses made clearly show that the mixing of turmeric and flour with mustard is a very common form of adulteration. The grocers who, of course, are greatly interested, evidently intend to be wise in their generation, and to take what comfort they can from the recent decision of the Queen's Bench. The idea of hanging a curiously worded show card in a conspicuous part of a grocer's shop was suggested a short time since as a means of meeting the requirements of the Adulteration Act, and apparently not without effect, for several grocers at Dunmow having been summoned for selling butter alleged to have been adulterated, the tradesmen of that and the adjoining districts are now adorning their shops with a characteristic notice running thus: "All goods sold here are mixtures and compounds, and no articles will be guaranteed to be genuine." A small fact like this is in itself a complete answer to those who declared that legislation upon the important question of adulteration was "quite unnecessary."

## DOMESTIC RECIPES.

---

*The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.*

---

### MY GRANDMOTHER'S RECIPES (*continued*).

#### ORANGE JELLY.

Dissolve 2 ozs. of isinglass in a pint of water, then squeeze into it the juice of 7 oranges with 1 Seville orange, and 1 lemon additional, and add  $\frac{1}{2}$  lb. of loaf sugar. Pare 14 oranges thin, and boil the peel tender, passing it through a sieve; when this juice, etc., is strained mix the peel with it and stir all over the fire some time; strain it into a basin and when cold put it into your moulds.

#### TO MAKE A GROUND RICE PUDDING.

Take  $\frac{1}{2}$  lb. of rice and boil in a quart of milk till it is of a proper consistence; let it stand till cold, then add to it 3 eggs, nutmeg, and sugar to taste; mix well together and bake in a slow oven.

#### SYLLABULES.

Put to a pint of cream the whites of 3 eggs, beat well; add the juice of 1 lemon, 3 spoonfuls of wine, lemon peel grated, and sugar according to taste; have the glasses ready, with a little wine in each of them; whisk the cream, and as the froth rises fill the glasses.

#### CHEESECAKES.

Take a quantity of cheese curds, and beat very fine with  $\frac{1}{2}$  lb. of butter and 2 ozs. of almonds; boil a pint of thick cream, and let it stand till almost cold, then mix some of it with the almonds, and put it to the curd; add the yolks of 10 eggs, well beaten, with a little rose water and  $\frac{1}{2}$  lb. of sugar; mix them well with a few slices of citron. If the cream be very thick the curd will take it, if not, leave out a little or it will be mixed too thin; do not fill the tins till they go to the oven, as they are apt to whey; tie the curd in a thin cloth to drain before you begin, but do not squeeze it with your hand as it will make it tough.

#### FINE CUSTARD.

Boil a pint of thick cream with a little cinnamon; when cool, put to it the yolks of 4 eggs well beaten; boil with care that it may not curdle; sugar to taste and add about 1 ounce of almonds, beaten small; wet the saucepan with water to prevent it burning.

#### POTTED BEEF.

Take 3 lbs. of lean beef, rub it with half an ounce of saltpetre; let it lay 24 hours, then salt it well with common salt, and put it into a pot covered with water for three or four days; then take it out and dry with a cloth, after which put it with  $\frac{1}{2}$  oz. of pepper and bake it; then drain it from the liquor and pull from the skin and veins; beat it in a mortar very fine; season with cloves, mace, and, if required, more pepper and salt; mix with rather better than a  $\frac{1}{2}$  lb. of butter, melted; pot it up hard and cover with clarified butter.

---

*\*\*\* Every communication intended for insertion in the "Food Journal," should bear the name and address of the contributor, not necessarily for publication, but as a guarantee of good faith.*

THE  
FOOD JOURNAL.

---

ECONOMY OF FUEL.

---

DURING the winter season perhaps no more important subject can be brought before householders generally than that of fuel. In no country in the world is fuel so extravagantly and wastefully used as in England ; but whilst engineers have been continuously striving, and with successful results, to get a greater and greater amount of duty out of each pound of coal, every possible encouragement for wastefulness seems still to instigate the builders of modern houses ; for by the modern grates, although they are certainly in some respects superior to those of twenty or thirty years ago, not only is there an absolute waste of fuel owing to most imperfect combustion, but also a great portion of the carbon that is actually consumed dissipates the heat caused by its combustion directly up the chimney, instead of diffusing it into the room which it is intended to warm. Again, with open fireplaces such as we in this country are accustomed to, it is manifest that they must act as powerful ventilators, and that a large quantity of air which is driven up the chimney must be supplied in some way or other through the apartment in which the fire is burning. This supply of air is, as all our architects and builders must be fully aware, generally left entirely to chance, and finds its way into the room by crevices in the doorways and window sashes, or between the boards of the floor, or through any similar accidental passage through which it can make its way. Owing to this want of system in the supply of air necessary to produce proper combustion in the grate, many rooms are found to be draughty when there is a fire in them, and strongly conducive to giving colds, for which defects few can be found capable of devising an effectual remedy. On the other hand, if the supply of air is inadequate, the chimney of necessity smokes, and the door or window requires to be left open, in order to counteract the natural defect in the construction of the room. Especially are one or other of the above defects noticeable in small rooms, whilst

for obvious reasons they are not so much apparent in those of larger dimensions. The heat given off from an ordinary fire may be divided into two parts, viz., combined heat, which passes up the chimney with the smoke, or unconsumed particles of carbon, and radiated heat, which alone passes into the room. The former is much more considerable than the latter, which, however, is the only part of the heat generated by the combustion of fuel in an open fireplace that is ever employed in heating a room.

It has frequently been a subject of enquiry whether the ancients were acquainted with chimneys or open fireplaces. It is considered certain, however, that in the houses discovered at Herculaneum and Pompeii there were no chimneys, but they all appear to have been warmed by flues, which is undoubtedly the most effectual and economical method by which apartments, or, indeed, whole buildings can be heated.

The charcoal brazier is, perhaps, one of the most ancient methods of warming a room; the Greeks of old adopted it, and bestowed much of their exquisite taste in improving its form and adorning it with sculptured figures. In some parts of Spain charcoal is even now burnt in a flat open pan about two feet in diameter, raised a few inches from the ground by a round wooden frame for supporting the feet of those sitting near. The Romans also adopted a somewhat similar contrivance supported upon elegant bronze tripods. For heating large rooms, however, they used the hypocaust, or system of flues conducted below the floor, the fireplace being outside the building. A similar contrivance is said to be still in use among the Chinese in and about Peking, where inferior or small refuse coal is used, being mixed and made into balls with a compost of clay, earth, cowdung or other refuse vegetable matter, and then dried in the sun. These balls give out very little smoke, and are well adapted for the purpose intended.

In former years, when wood only was used as fuel in this country, it was burnt upon the hearth. The raising of the grate a few inches above the hearth, and the contraction of the opening of the fireplace into the room, so as to prevent smoke from entering the apartment, which is a universal nuisance in small rooms, were first introduced by one Louis Savot, probably about the end of the 17th or the beginning of the 18th century. This prepared the way for the use of coal in open fireplaces, but which, as we have already shown, is perhaps the most extravagant way in which it could possibly be employed. The use of flues, as adopted by the Romans and Chinese, is particularly dangerous where wood enters much in the composition of the building. The destruction by fire

of two of the largest theatres in the kingdom early in the present century, naturally directed the attention of the public to rendering buildings less subject to such dreadful calamity. "In this important respect," says Buchanan, in his "Treatise on the Economy of Fuel and Management of Heat," "no means of heating buildings has yet been devised so good as that by steam, and, from its novelty, none is yet so partially known or understood." This was written in 1815, and seems merely to refer to a subject previously introduced; for in the "Philosophical Transactions" for the year 1745, it appears that Colonel William Cook suggested the idea of warming rooms by steam, but it does not appear that he ever attempted to reduce it to practice. Count Rumford, in the third number of the "Journals of the Royal Institution," mentions that "this scheme has been frequently put into practice with success, in this country as well as on the Continent;" but there appears to be no evidence forthcoming that anything of importance was done in this direction previously to the use of steam in warming cotton mills.

The attention of James Watts was naturally enough directed to this as well as to other applications of steam, and about 1784 or 1785 he actually used steam for warming a room in which he commonly wrote. Soon after this Boulton heated a room in his manufactory by steam, and a few years later applied the same system for heating his bath; subsequently he proposed heating every room in his house, at Soho, by steam, and a boiler was put up in one of the cellars for that purpose, but some circumstance occurred which prevented his continuing the plan. About the end of the year 1799, Mr. Lee, of Manchester, having a large increase of his cotton mill in view, consulted with Messrs. Boulton and Watts relative to the best mode of heating it by steam, and in the course of the subsequent year, an apparatus of cast iron pipes was put up for that purpose, which also acted as supports to the floor. It answered admirably, and was, both in point of materials used and of the construction adopted, the first of its kind, and from that period many similar apparatus were constructed by the same firm. By a curious coincidence, in the same year (1799), a Mr. Snodgrass introduced an apparatus for heating by steam at the cotton works of Messrs. Dale & McIntosh, on the banks of the Spey, in Scotland, without, it is believed, having any knowledge of what was being done by Boulton and Watts.

Now, whilst the constructors of stoves for heating buildings have been, to a great extent, satisfied by the mere following in the steps of those that have gone before, so far as the question of economy of fuel is concerned, engineers have been constantly endeavouring

so to improve the form and arrangements of boilers employed for steam-engines, as to make them perform the highest possible amount of duty with the smallest amount of fuel; it is obvious, therefore, that there is room for similar improvements in the case of boilers employed to generate steam for the warming of buildings. Steam from a boiler represents the escape of latent heat contained in the water, and communicated to it by means of the combustion of fuel in the fire beneath; and the more perfect the combustion the greater will be the amount of steam generated per pound of fuel consumed, and, consequently, the greater will be the area heated by the combustion of each pound of fuel. Hence we see the great desideratum in the construction of fireplaces for boilers is that they shall be so arranged as to ensure the most complete and perfect combustion, at the same time permitting the smallest possible amount of waste heat to pass away unutilised.

Besides being applicable to large buildings or single houses, the system of heating by steam might well be applied to whole rows of smaller buildings, one boiler and furnace being sufficient to heat several cottages, and that with far greater economy than the same amount of heat could possibly be raised by isolated fires in the different houses. By this means, also, much suffering and illness would be prevented amongst the poorer classes during the inclemency of winter, whilst the cost to each family would be almost inappreciable. The one great necessity is, that landlords should provide the requisite apparatus for putting such a process into effect, the cost of which would be amply repaid by a very trifling increase in the rent of each cottage. Such increased rent would, moreover, be returned over and over again to the tenants by the saving in fuel and the increased health and comfort which they would enjoy.

Before leaving the subject of warming large buildings it may be interesting to give some particulars of the plan adopted for warming and ventilating the Royal Albert Hall, at South Kensington. We may here state that, while it is simple enough to warm or to ventilate a building, a combination is neither so simple, nor is it often satisfactorily accomplished; and when it is considered that the main points by which the arrangement for the Albert Hall had to be governed were economy in warming and a satisfactory combination of this process with that of ventilation, we see what useful instruction may be gathered from it in connection with the subject now under consideration. The Albert Hall will accommodate about 8,000 persons seated, and its capacity amounts to five million cubic feet. The heating power consists of an arrangement

of distinct coils of hot water pipes, placed in three air chambers, each consisting of sixteen distinct coils of 4-inch hot water pipes, heated by condensing boilers so arranged that each condenser has its direct coil of pipes to work, all being supplied with steam from two boilers belonging to the pumping engines in the Horticultural Gardens. One of these air chambers is carried under the main corridor, a second runs beneath the seats of the amphitheatre stalls, whilst a third passes under the arena. These three chambers are connected with two fans, the combined supply of air from which will be about three million cubic feet per hour. The air from these fans being warmed by the hot water coils, is conveyed to the body of the hall from the chamber under the main corridor by means of channels built in the walls, which are also in communication with the corridors, boxes, and adjoining private rooms. The other air chambers communicate with other portions of the building, and thus the entire power of the apparatus may be concentrated on the hall, warming every part of it; whilst, at the same time, means are provided for warming the enclosed rooms independently when necessary.

For the purpose of warming a room, the stove is far more effective and economical than the ordinary open fireplace. It consumes less fuel, makes no dust, and requires a smaller amount of air. Stoves were first extensively introduced into England for the purpose of warming buildings devoted to the manufacture of cotton, and at one time all cotton mills were thus heated. Stoves of improved shape are now also much used for warming cathedrals and churches in England and on the Continent. As far back as the beginning of the 18th century, a M. Gauger published a work in French upon the subject of fires and fireplaces, in which he mentions the stove-grate then employed on some parts of the Continent, and called "*chapelle*," from its resemblance to the chapels or oratories in great churches, and which is thus described: "In the great chimney-piece, which in this case may be made even larger than ordinary, is set a smaller one fitted up in the same style of ornamental, but of a size no greater than is sufficient for holding the fuel. The sides and back of it are made of iron, and are kept at a small distance from the sides and back of the main chimney-piece, and are continued down to the hearth, so that the ashpit is also separated. The pipe or chimney of the stove-grate is carried up behind the ornaments of the mantelpiece, etc." The effect of this construction is very obvious. The fuel being in immediate contact with the back and sides of the grate, heats them to a high degree, and they heat the air contiguous to them. This heated air



cannot get up the chimney, and it therefore comes out into the room, some small portion only entering the fireplace, whilst the rest rises to the ceiling and spreads itself uniformly over the room. Less than one-fourth of the fuel consumed in an ordinary fireplace is sufficient for one of these stove-grates, whilst it has the advantage of possessing the same cheerful appearance and salutary renewal of air, which is not the case with a close stove.

In order thoroughly to warm a house it is most important that the hall and passages should be kept heated, for it is thence that the chief supply of air is drawn into the rooms to sustain their fires. By keeping that part of the house warmed the temperature of each room will be sensibly raised, and the comfort of the house generally improved. This, however, is a point which is in the most unaccountable manner almost universally ignored.

FRED. CHAS. DANVERS.

LONGEVITY AND LIQUOR.—Mr. H. Ffennell, writing in *Land and Water*, gives some remarkable instances of longevity in Ireland. He says:—"Up in a valley (near Bancrana, county Donegal) I came upon a curious instance of longevity, three cottages being pointed out—cabins, indeed, I may call them—in each of which, in May last, there resided a human being aged 101 years—two men and a woman, all of them born in the same year. One of the men died in May, but the old man and woman are still living, and seemed hearty enough, though they looked their age. Evidently the poor folk around were proud of their three old people, and spoke with the greatest respect of the poor old fellow who dropped off in the spring. I was sorry I did not ask whether tea enters into the diet of the Innishowen peasantry, for further on in my wanderings through South Donegal I was told they had no old people at all since tea-drinking came into fashion. Many instances of the killing qualities of tea were gravely described to me, and I was told how the priest from the altar cursed the use of it again and again.

LONDON MILK.—The Metropolitan Dairymen's Society held a meeting in Exeter Lower Hall recently to consider a uniform rise in the retail price of milk. The following resolution was passed:—"That in consequence of the increased price of cattle and the heavy risk entailed in keeping them, the present and increasing rate of wages, and the additional costs in the working expenses of dairies, it is necessary that the retail price of milk be advanced generally to 5d. per quart." It was urged that a pure article could not be given for 4d. per quart, and that the price had not been raised for 30 or 40 years, though the farmer charged 25 per cent. more than in 1853, and wages, which 20 years ago were 16s., are now 20s.

## THE PRICE OF MEAT.

---

"WHEN *will* the price of meat come down, and the housekeeper's millennium begin?" asks many an anxious mother of a large family, who finds her powers of management taxed to the utmost by the high rates that butcher's meat has maintained for the last few years. It was patiently endured so long as the pressure on the meat market was said to be due to disease amongst the cattle, because that was recognised as a heaven-sent affliction which it would be unreasonable to grumble at, and which, it was hoped, would soon pass away. But it has passed away, our stocks are now as free from disease as they can ever hope to be, they are also more numerous than ever they were, and our meat supply is being increased in every possible way by importations from all parts of the world. Live cattle are coming not only from Europe, as usual, but we have within the last few months opened a new trade with America; Australia is sending us large quantities of dead meat, and has just been trying a new process by which she may be enabled to send us the meat in carcase as well as tinned; everywhere busy brains are at work devising fresh means of adding to our stores. The Board of Trade returns tell us, monthly, of a steadily increasing consumption of foreign pork, bacon, and hams, and still the butcher's bill mounts higher and higher, and the millennium of cheap meat does not begin. Why is this?

The best way of replying to this question will be to examine the causes that have led to the rise; and in doing this we must consider the price of meat relatively to other prices in the present day, as well as to its own price in former years. That prices will ever come down to the level of ten years ago, when legs of mutton were obtainable, in the country at least, at 7*d.* per lb., is beyond the dream of the most sanguine believer in the power of agricultural development. Meat may, indeed, fall to its natural level, relatively to the prices of other things, but that level will be a much higher one than that which obtained ten years ago. There has been a sudden spring upwards, which has raised almost all prices 10, 20, or even 50 per cent.; the gradual increase arising from the depreciation in the value of money has been vastly accelerated by the

rise in all kinds of wages, and it is only natural that beef and mutton should share in the upward movement; the more so as the cost of their production is increased by the higher price of labour at the same time that the better wages themselves add to the demand upon the markets. Looking at the matter from this point of view, the price of meat is not so very much above what must now, I fear, be considered its natural level, as it appears to the prudent housekeeper who sighs for the good old days of 6½d. and 7d. per lb. We were reminded a couple of years ago, when we were in the early days of our grumbling, that history was only repeating herself, that there was the same panic about meat just a hundred years ago, when there were riots in different parts of the country, butchers' shops being broken open and their meat seized by the "sovereign people," who sold it by auction, and, with an excess of honesty, handed the money to the butcher. This was in the spring of 1772, and yet by Michaelmas of that same year meat was down to its old level and the people were happy again. But even the most superficial observer will see that the conditions have materially changed since 1772.

Besides the increase which it has shared with other things, there have been several causes at work which have combined to force up the price of meat at an abnormally rapid rate. Some of these causes have been of a temporary nature, it is true, and their removal would lead us to anticipate a reduction, were it not that the most important influence is not only of a permanent character, but is one that is increasing in amount. Omitting a few minor, though not by any means unimportant ones, the chief causes of the rise in the price of meat are three: (1) increased demand, (2) deficient supply, and (3) losses by disease. Of the latter so much was said in the *Food Journal* for December, January, and February last that it will not be necessary to do more than remind the reader that those losses were a much more serious affair than the public, or even the Government, could be induced to believe, and that the loss of money to the farmer, and, therefore, of money's worth in meat to the public during the years 1871-2 was considerably greater than that which arose from the dreaded rinderpest in 1865-7. In the one case the mortality was very great, but the number of animals affected was comparatively small, whilst in the other, the number of actual deaths being not more than 1½ per cent., little was thought of the great waste of food that was taking place in consequence of the deterioration of so large a portion of our stock.

It will present the matter in a much clearer and more striking

way to the eye if a few figures are first thrown into tabulated form. Our stock of cattle has fluctuated thus during the last eight years :—

Year.	Approximate Population of Great Britain.*				Cattle in Great Britain.				Cattle in United Kingdom..				
1866	..	..	..	24,300,000	..	..	4,785,836	..	..	8,569,693			
1867	..	..	..	24,540,000	..	..	4,993,034	..	..	8,731,473			
1868	..	..	..	24,830,000	..	..	5,423,981	..	..	9,083,416			
1869	..	..	..	25,080,000	..	..	5,313,473	..	..	9,078,282			
1870	..	..	..	25,530,000	..	..	5,403,317	..	..	9,235,052			
1871	..	..	..	26,062,721	..	..	5,337,759	..	..	9,346,216			
1872	..	..	..	26,500,000	..	..	5,624,994	..	..	9,718,505			
1873	..	..	..	27,000,000	..	..	5,964,549	..	..	10,116,110			

The first point that strikes one on looking at these figures is that our stock of cattle is larger in proportion to population now than it was in 1866. We had then 35 cattle to every 100 persons, we have now nearly 38, so that it is not the mere numerical increase of our population that has caused the pressure on the meat market.

The next point that is worth notice is that, fearful as the visitation of rinderpest was, when pestilence was stalking through the land, it did not produce such an effect upon our stock as to arrest the natural increase. It lasted from June, 1865, to September, 1867, and yet it will be seen that the numbers were increasing in both those years. It was not until after the dry season of 1868 that we find any decrease. The effect of this disastrous year, when thousands of cattle and hundreds of thousands of lambs were sent to the butcher because their food was all dried up, is seen in the returns for 1869, when not only was there no annual increment to keep pace with the growth of the population, but our stock in Great Britain alone was diminished by 110,508 cattle. They recovered themselves in 1870, but had hardly reached the level of 1868 when another dry summer again threw them back. Ireland, however, having a moister climate, did not suffer so much in 1870, and the stock of the United Kingdom shows a small gain upon the whole, the value of which was materially reduced by the almost universal prevalence of foot-and-mouth disease, so that the numerical gain of 1871-2 is no measure of our available food supply.

For the sake of simplicity sheep were not included in the above table. They have shown a steady decline of about 1,200,000 a year falling from 30,711,396 in Great Britain in 1868 (their highest point), to 27,119,569 in 1871. Since then they have recovered themselves to a considerable extent, and now stand at 29,427,635,

---

\* The population of Ireland may be left out of the question, as it has been steadily decreasing for many years, and any little effect it would have on the deductions from the above table may, for present purposes, be disregarded.

to which must be added 4,486,453 for Ireland. Pigs show a small numerical decline both in Great Britain and in Ireland, but they have not much influence on the meat market, and may be disregarded.

There is another consideration which must not be wholly neglected in estimating the amount of our food stores. There are cattle and cattle, sheep and sheep, and for food purposes a thousand bullocks from our best English pastures may be reckoned as good for many more pounds of meat than the same number of foreign cattle which average fully eight stone less in weight. There is a difference, too, amongst our own stock, and if the vast sums that are paid for pedigree shorthorns have not been merely money thrown away upon a rich man's fancy, the great attention that has been paid to cattle breeding must have done something for us in the way of altering the whole character of our stock. What is the prize shorthorn bull valued so highly for? Is it not because it is found that he imparts to his progeny his own substance and meat-forming capability? The same capacity for putting on flesh which brings up the giants of Islington and Bingley Hall to their massive weights—and many of them fall very little short of a ton of solid flesh and bone—must have considerable effect upon the meat-producing power of the country even if developed in only a moderate degree. This is the object which our agricultural societies at any rate *profess* to have in view: to promote a widely-spread general improvement rather than individual excellence, and if they seem occasionally to be drawn aside from their purpose by the temptation of producing a few splendid prize animals, yet these are after all only the result of accumulated excellence which must also have had some influence elsewhere.

We have, then, in what has been already said, abundant reasons for the high price of meat during the last few years, but we have not a sufficient reason why those high prices should be maintained. Our stocks are now in good health; they are more numerous than ever they were; and their quality is greatly improved. If, then, the price of meat does not come down—and I do not think it will materially at present—it is evident that there must be some other cause or causes, more powerful than any that have yet been named, operating to keep the price up. With this it is proposed to deal in a future paper.

GEORGE WALTERS.

THOUGHTS ON TOOTHPICKS.

---

THE other day that public censor, *Punch*, laid his hand rather heavily upon those "Savages in Clubs" who, dead to all feelings of delicacy, adopt the revolting and brutal practice of picking their teeth with sharp instruments while at table, and even in the presence of ladies. One can scarcely conceive a habit more ungentlemanly, offensive, and abominable. Albeit not followed so generally as it used to be, still the objectionable act is sufficiently in vogue to justify private animadversion and public reprobation. We quite agree with our facetious contemporary that fashionable persons who persist in this odious practice should be ostracised from Club dining-rooms, and special chambers set apart for them, so that they may no longer inflict suffering upon others whose delicate organisations they cannot understand, and whose sense of decorum they fail to appreciate. This summary proceeding may readily be justified on the humanitarian principle inculcated by my genial friend, Oliver Wendell Holmes, in his charming "Autocrat of the Breakfast-Table." Referring to the influence induced by the presence and demeanour of certain people, the sagacious Philosopher observes: "One who is born with such congenital incapacity that nothing can make a gentleman of him is entitled, not to our wrath, but to our profoundest sympathy. But as we cannot help hating the sight of those people, just as we do that of physical deformities, we gradually eliminate them from our society—we love them, but open the window and let them go."

The toothpick—or pick-tooth—is derived, it appears, from the *stecco* of the Italians and likewise formed the crude idea from which the two-pronged fork was drawn. The instrument was unknown in England before Queen Elizabeth's reign. A few of the early dramatists make reference to it. Thus in Ben Johnson's *Every Man out of his Humour* (act IV., sc. i.), Fallace, the Citizen's wife, cries:—

"O, sweet Fastidius! O, fine courtier! How cleanly he wipes his spoon at every spoonful of white meat he eats, and what a neat case of pick-tooths he carries about him still."

From this passage critics consider that although Fastidius carried a bundle of wooden skewers sharply pointed about his person,

nevertheless he did not use them to pick his teeth, but simply for the purpose of conveying solid food to his mouth, just as the Chinese make use of chop-sticks for the like purpose; that is, to serve in lieu of a fork. Court gallants also employed spoons to eat white meat. The toothpicks were carried in neat cases and were regarded as gewgaws. Hence they were used ostentatiously at meals, and on other occasions by way of distraction. Thus Overbury, in his "Characters," observes of an Affectate Traveller that "his toothpick is a main part of his behaviour," clearly intimating that the shocking habit of picking the teeth had not then been in vogue. This is further confirmed by Shakspeare, who in his play of *King John* (act 1., sc. i.), makes Philip the Bastard observe:—

"He and his tooth-pick at my worship's mess;  
And when my knightly stomach is sufficed,  
Why then I *suck* my teeth."

The pernicious practice of picking the teeth manifestly must have come into use during Dryden's time. In one passage of his plays we alight on the following curt allusion:—

"These are not dishes for thy dainty tooth:  
What! hast thou got an ulcer in thy mouth?  
Why stand'st thou *picking*?"

Sandys observes, "If toothpicks of the lentisc be wanting, of a quill then make a toothpick." Lentisc, according to an old writer on Husbandry, is a beautiful evergreen, and made the best toothpicks.

Few but will remember the humorous incident in "Sam Slick, the Clock-maker," illustrative of the use of toothpicks. A shabby-genteel fellow, with not a cent in his pocket, is represented lounging or "loafing" in the evening at the portal of a fashionable hotel, holding a toothpick in his mouth meanwhile, to give persons the false impression that he had just been dining there.

Some persons in America are particularly addicted to the foul practice of using toothpicks. In fact, not satisfied with the vigorous employment of such weapons during meals, they are said to carry them in their mouth out of the dining-room, and to keep digging at their teeth, or else twirling them between their lips for an indefinite period. This is an amusement equal to "whittling;" and "a certain Yankee," as has been incisively observed, "can 'whittle' a toothpick out of a pine log."

Nothing can well be more revolting to sensitive, cleanly persons than the habit of picking the teeth either at meals or after-

wards. The material of which the nasty instrument of torture is made, whether of wood or quill, does not render the practice less reprehensible. I lately observed in a shop window in Holborn, a box of pretty-looking "diaphanous" toothpicks imported from France; and it sorely grieved me to think that so much ornamentation should be bestowed upon such injurious articles. The use of toothpicks should not be tolerated in civilised society, especially in what is termed "good society." Negroes do not need such things; then why should the white man? Savages can get on very well without such skewers; then why should Christians patronise them? Beside they are highly injurious to the human teeth, creating apertures between them, destroying the delicate enamel which protects them, thus inducing premature decay. Therefore, both on the grounds of decency and health, the toothpick should be universally eschewed.

S. PHILLIPS DAY.

---

DEAR COAL.—Indignation meetings continue to be held on the subject of dear fuel—with what particular object it is difficult to divine. Talking will not lower the tone of the market—on the contrary, it is more likely to produce a panic—nor is it likely that "double shift" will be kindly accepted by those miners who are inimical to that system, at the hands of metropolitan committees. A far more practical plan, from the public point of view, would be the institution of rigid economy in the use of coal. Waste of the most reckless kind has hitherto prevailed in the use of fuel, and if the present coal famine should have the effect of teaching all sorts and conditions of men the true and economical employment of fuel, some compensation will be obtained for the present period of trial. The important prize offered by the Society of Arts for an economical stove will not fail to stimulate the inventor, but, unless the actual consumer be keenly alive to the importance of saving domestic coal, skilfully constructed stoves will help him but little. Strangely enough, the greatest waste of food and coal occurs among our poorer population—a fact that may be verified by an inspection of the dustbins of humble neighbourhoods.—*Iron.*

THE FRUIT TRADE IN THE UNITED STATES.—The foreign fruit trade of the United States is large, and constantly increasing. New York has about three-fourths of the entire import business. Here are annually received at least 1,500,000 boxes of raisins, 50,000 boxes of currants, 6,000 to 8,000 tons of Turkish prunes, 1,500,000 boxes of oranges and lemons, 40,000 bags of Brazil nuts, and millions of pounds of almonds. These are only a few of the details. In the transportation of fruit, none but the fastest vessels are engaged, and latterly steamers have been to a great extent substituted for even the swiftest sailing craft.—*Harper's Weekly.*



## USEFUL PROPERTIES OF THE SUNFLOWER.

---

AMONG the plants of which we in England generally fail to make the most is the well-known ornament of our gardens, the *Helianthus annuus*, and yet there are few vegetables which could be turned to more account. We have no excuse for this neglect, for the plant in question has long been known and cultivated in this country. Towards the end of the sixteenth century we hear it spoken of as a common garden flower, so that the date of its first introduction into England from Peru must have been considerably earlier. The only way, generally speaking, in which the sunflower is utilised in England is the employment of the seeds as food for poultry and smaller birds, and this purpose it answers admirably. But besides this, there are numberless other and more important uses to which it could be put, but which we have generally neglected.

Other countries have not been so backward as England in recognising the useful properties of the sunflower. In the north-west provinces of India it is cultivated to a considerable extent, and with much success, in swampy districts; and it is asserted that the sunflower plantations exercise a beneficial influence on the health of the neighbourhood, by tending to check the malarious fevers so prevalent in those parts. The Agri-horticultural Society of the Punjab, in a recent report, advocates the more general cultivation of the sunflower for utilitarian purposes, and also enumerates some of the advantages which would attend it. We find that the flower leaves, removed without deranging the seeds, may be used as fodder for cattle and with great success; the stalks when burnt produce large quantities of potash; and the seeds, besides their use in feeding poultry, already mentioned, may be made to yield a large percentage of oil.

In that practical country, the United States of America, where sunflower cultivation is carried on to a considerable extent, principally on account of the value of the plant as an oil producer, as much as 40 per cent. of oil is, on an average, obtained from the seed. After the process of expressing the oil, the refuse, under the name of "marc," is largely used as a fattening food for oxen, hogs, etc. More than this, the leaves also may be utilised; for, by parching and powdering them, and then mixing with bran, it is said that a food is produced to which cows are especially partial. Even if it had none of these useful qualities to recommend it, the excessive

fondness of bees for the blossoms of the sunflower would alone repay all owners of apiaries for the trouble of cultivation.

Here is a long list of uses, but we have not done yet. There is another still, which, although we ignore it, the ingenious Chinese have not suffered to escape them. The stalks of the sunflower, when subjected to the same treatment as flax, yield large quantities of fine, useful fibres; and it has been supposed that the shrewd Celestials make an extensive use of these in their silk manufacture.

Any one of all these valuable properties would seem sufficient to induce the general cultivation of the sunflower; but when we hear, in addition, that the dried leaves make a good substitute for tobacco, and the roasted seeds for coffee, the neglect of this really useful plant, in this age of adulteration and spurious imitation, becomes more surprising than ever. Moreover, the sunflower is by no means fastidious as to soil, and may easily be cultivated similarly to Indian corn, either sown broadcast or in rows. All this being so, it seems a pity that we do not avail ourselves more of the useful qualities of the *helianthus*; and, as we all know,—

“Omne tulit punctum qui miscuit utile dulci,”

—another reason why it should be redeemed from its present unmerited oblivion; for it is a really handsome, showy flower, thus wonderfully combining the useful with the ornamental.

Another sunflower, which is somewhat more highly regarded in England, is the Jerusalem artichoke (*Helianthus tuberosus*), which derives its name, not from any connection with the Holy City—although the soup made from the roots is called Palestine—but merely from the fact of its being a sunflower, the Italian name for which is *girasole* (sun turner), and of this “Jerusalem” is an obvious corruption. It seems possible that the Jerusalem artichoke was known to the Romans, and used by them as a table vegetable; but it was afterwards neglected and forgotten, and in 1610 was reintroduced, somewhat later than the sunflower. At first it was largely cultivated in England, and became so common that we hear from a contemporary writer (Parkinson) that, “even the vulgar began to despise them.” It found a dangerous rival in the potato, and subsequently fell into a general disrepute, and at the present time is not cultivated nearly so extensively as it deserves. On the Continent and in America it is used as a vegetable and in soups; also as a food for hogs. And we may be sure that it would be well worth our while to make more of it than we do.

G. F. P.

## TRADES AND LONGEVITY.

---

THE influence of trades upon the health and length of life of those employed in them is a subject of national importance, and has not merely a sentimental but an immediate practical interest. The existence of occupations which, with dire certainty, shorten life is not creditable to civilisation. That care and wise sanitary arrangements would greatly diminish the mortality, even in those trades known to be deleterious, cannot be doubted. The entire resources of modern science would fail to make coal-mining an agreeable and healthy pursuit, but whilst the masters neglect the ventilation of the workings, whilst the foremen take no notice of the smell of tobacco, and the men have their pockets full of matches or light their pipes with the Davy lamp, we need not be surprised at the recurrence of those dreadful calamities which from time to time bring desolation upon an entire village.

The census of 1861 gave the number of persons employed in each occupation for that year, and Dr. Farr, in his supplement to the 25th report of the Registrar-general, gave the numbers in each trade that had died in 1860-61, and pointed out the results for some trades; more recently, Mr. Neison has investigated the subject in greater detail, and checked the results by those arrived at in an inquiry based on the experience of members of Friendly Societies, embracing 1,147,243 years of life.\* These two inquiries corroborate each other in a manner strikingly confirmatory of their accuracy. Thus the Registrar-general's returns give 10·4 as the mortality per 1000 of gardeners, and the Friendly Societies' returns as 10·6; whilst in the case of innkeepers the one method gives 25·0 and the other 21·4. The extent to which occupation influences mortality may be seen from the fact stated by Mr. Neison that in some cases "the mortality in one avocation exceeds that in another by as much as 239 per cent."

In the professions, those who have the care of souls are decidedly the longest lived, whilst those who have the care of bodies are killed off quickest. Whilst the general death-rate between the ages of 25 and 65 is 1·50 per cent. per annum, members of the

---

\* "Influence of Occupation upon Health, as shown by the Mortality experienced."  
By Francis G. P. Neison, F.S.S. *Journal of the Institute of Actuaries*, July, 1872

clerical profession die at the rate of 1'04, whilst lawyers die at 1'51 and medical men at 1'77 per cent. Roman catholic priests die faster than protestant clergymen, and surgeons and apothecaries more quickly than physicians. The great mortality amongst medical men is a striking fact; to them individually we may say, "physician heal thyself." If they were known to be fond of taking their own drugs, a plausible explanation might suggest itself to the non-medical mind; but as this is notoriously not the case, the blame must be laid upon the anxieties, hard work, and constant worry to which doctors are peculiarly liable.

If we now go to the other extreme of the social scale, and take the death-rate of those who work underground, we find considerable variations in the several branches. Thus iron-miners die at the rate of 1'37 per cent., and coal-miners 1'48 per cent., whilst the lead-miners' death-rate is 2'03, and the copper-miners' 2'47 per cent. The different quantity and efficiency of ventilation appear to have much connection with the variation. Mr. Neison mentions that amongst miners and factory workers those who lived at some distance from their work were healthier than those living close to it. "The miner," says Dr. Farr, "may be protected from explosions, and, to a large extent, from underground injuries, by greater care on his own part and on the part of the managers and proprietors. He may be saved from the excessive fatigue of ladder climbing, and, if the mines were well ventilated, he would not break down by so premature an old age." Alas! these conditions are at present so Utopian that it is long ere we may hope to see them affecting the health and longevity of the miner. The thoughtlessness of the miner, who will risk his own life and those of all his companions for a whiff of tobacco; the carelessness of the mine-owner in not ventilating thoroughly; the recklessness with which the rules necessary for safety are allowed to be disobeyed,—all combine to prevent any cheerful view of the subject. From another of Mr. Neison's tables we find that between the ages of 25 and 65 the mortality in the following manufactures is:—Iron 1'27, paper 1'30, tin 1'31, nail 1'32, brass 1'38, glass 1'58, copper 1'85, lead 1'93, earthenware 1'97. Thus it will be seen that of all these trades the potters is the most unhealthy, due, probably, to the great amount of dust and the high temperature at which the work is done. "It is found that China scourers very soon become asthmatical after working a short period, no matter how healthy before."

The trades connected with the preparation of food appear to be all more or less unhealthy, but this is more marked in the case of

those occupations connected with animal food. From 25 to 65 years of age the annual mortality is amongst provision curers 1·68, fishmongers 1·74, butchers 1·74, poulterers 2·11. The causes of this high mortality are probably varied. "First of all the inhalation of an atmosphere always to some degree impregnated with animal matter, must have a deleterious effect; secondly, the latter cause in conjunction with the manner in which they are exposed to the weather, and the lack of exercise; and, lastly, it might in a great degree be influenced by the partaking of an undue amount of animal food. Moreover, there would of necessity occasionally be much putrescent animal matter, and, therefore, they would be more than ordinarily exposed to fevers."

What is the most unhealthy trade of all? It will surprise many to learn that the publican class experience a higher rate of mortality than is known to obtain in any other occupation.

Mr. Neison has discriminated between the various branches of the liquor trade. We take the following from one of his tables:—

	25 to 65 Living in 1861.	Deaths in 1860 & 1861.	Annual Mortality per cent.
Beersellers .. .. .	10,428	429	2·06
Wine and Spirit Merchants .. .. .	5,483	256	2·33
Publicans and Licensed Victuallers .. .. .	27,671	1,321	2·39
Beersellers, Wine and Spirit Merchants, Publicans and Licensed Victuallers, } and Inn and Hotel Keepers .. .. . }	62,316	3,010	2·41
Publicans, Licensed Victuallers, Inn and Hotel Keepers .. .. . }	46,405	2,325	2·50
Inn and Hotel Keepers .. .. .	18,734	1,004	2·68

In the younger ages the mortality exceeds 17 per 1,000, a higher rate than is known even in what are supposed to be specially unhealthy avocations. Not even in the earthenware trade is the death rate more than 14 per 1,000 living.

Mr. Neison's facts as to the greater liability to disease of the publicans are confirmed by the researches of Dr. Dickenson, who has analysed the post-mortem and case books of St. George's Hospital for the period of thirty years. Particulars were thus obtained of the pathological condition of the bodies of 149 traders in liquor. These cases were carefully compared with the same number selected from various occupations, and chosen by rule so as to afford a fair standard. A comparison of ages at which the members of the two classes died, "showed that to trade in liquors costs 3½ years of life; the alcoholic trader dying on an average at the age of 36·8 yrs, the non-alcoholic at 40·6 years."

Dr. Dickenson's summary of the pathology of alcohol is not

calculated to soothe the feelings of those who have been accustomed to look upon it as, in some form, necessary for the very sustentation of life. "Alcohol," he says, "causes fatty infiltration and fibroid encroachment; it engenders tubercle, encourages supuration, and retards healing; it produces untimely atheroma, invites hæmorrhage, and anticipates age."

After some details as to the precise form in which these effects are exhibited, Dr. Dickenson says: "So far we have seen only the ill which alcohol produces. It may be asked, is there none which it obviates?" Even on this score there is little comfort for the publicans, for although "it may be laid down as an axiom that any drug which can do harm can do good," and therefore its action in retarding adhesive and plastic processes "*may be beneficent if it hinders the development of acute inflammation and coagula where the process is harmful,*" yet it is to be remembered that "a man may be saved from pneumonia or acute rheumatism, not because alcohol is antagonistic, but *because it kills him prematurely in another way.*"\* This is cold comfort.

It is to be regretted that, owing to the vagueness with which occupations are described in death registers, it is not possible to ascertain the death-rate of all trades, but only of those which are so well defined as to prevent the likelihood of mistake. Surely this might be amended, and the district registrars directed to enter the occupations of diseased persons in a manner which would enable them to be arranged in the same order as the census returns of occupations. We should then be able to appreciate the positive influence of occupation upon health; and weak points in our industrial situation would reveal themselves in a manner plain and undeniable, so that a speedy amelioration, if not a cure, might safely be looked for. To know the exact nature and extent of a disease is more than half of the cure, and although an English poetess has charged us with "little recking if we work our men as nobly as our iron," we are convinced that in this as in so many other cases more evil is wrought from ignorance than wickedness. What is wanted is more light.

WILLIAM E. A. AXON, M.R.S.L., F.S.S.

---

\* This valuable and interesting paper was read before the Royal Medical and Chirurgical Society, Oct. 22, and is reported in the *Lancet*, Nov. 2, 1872.

## CITRON FRUITS.

## ORANGES AND LEMONS.

AMONG those important eatables known in the trade as "green fruits," none is so well known or such an universal favourite as the orange. It is quite cosmopolitan, for wherever it has been introduced, either by the cultivation of the trees themselves or by the importation of the fruit as an article of commerce, the orange has always been received with favour. With us it has become such a prominent article of import that a failure in the crops, either by disease or from any other cause, is looked upon in the light of a calamity, not only by the wholesale dealers, but by thousands of poor and aged people who eke out a miserable existence by vending oranges in the streets of London and the provincial towns. When we consider the low price at which oranges are retailed during the run of a plentiful season, it seems surprising that sufficient profit should be derived from their sale to pay for the culture, gathering, packing, freight, and other incidental expenses attendant upon them; but of the fruit-bearing capabilities of the orange tree, under favourable circumstances, in the south of Europe, few, probably very few, British consumers have the remotest idea. In the island of St. Michael's a single tree has been known to yield 20,000 oranges fit for exportation. Much attention has been paid by botanists at different times to the genus *Citrus*, to which the orange, lemon, citron, lime, and shaddock belong. Some authorities have referred them all to distinct species, but it seems more probable that many of them have originated from the same parent form, and are therefore to be regarded simply in the light of varieties rather than species. Many botanists of note have considered that the citron, orange, lemon, shaddock, and lime are probably all referable to *Citrus medica*, which is indigenous to the mountains of the East Indies, where it is still found in a wild state. If we accept the hypothesis that the citron is the original form of the much cultivated and favoured orange, we find, with regard to its early history, that Theophrastus describes it as being plentiful in his time in Northern Persia, and cultivated by the Jews in Syria during the Roman dominion. Though it appears probable that the fruits were taken into Rome before the period of the Christian era, the tree was not successfully cultivated in Italy till some time in the third or fourth century. However widely diffused the plant may have

been in early times in Western Asia, recent travellers have not found it in a wild state in Persia; but it has been found in the forests of Northern India; it is also cultivated in China, where it no doubt has been introduced from a remote period. At the present time it is grown in many warm countries, and in several of our colonies.

The orange, as we now know it, whether we consider it a distinct species, and call it *Citrus aurantium*, or a variety of *C. medica*, is certainly the most important of the whole group. Oranges appear to have been brought by the Arabs from India about the ninth century, the sweet oranges being carried through Persia to Syria, and so to the shores of Italy and the south of France, and the bitter oranges by Arabia, Egypt, and the North of Africa to Spain. There seems, however, to be no proof of their having been known in Europe till the eleventh or twelfth century, at the latter part of which date they were cultivated at Seville. An orange tree was planted by St. Dominic in the year 1200 at the convent of St. Sabina, at Rome, and it is said to be at the present time over 30 ft. high.

With regard to the introduction of oranges into England, tradition tells us that we are indebted to Sir Walter Raleigh, to whom has been accredited the importation of many of our important commodities. Seeds were taken from these fruits imported by him, and plants were raised by Sir Francis Carew (Sir Walter's nephew) at Beddington, near Croydon. The trees so produced grew and flourished till they were killed by a very severe frost, which occurred in the winter of 1739—40.

The orange tree is remarkable for the great age to which it will live in soil and climate suitable to it. In Cordova several trees were in existence a few years since, and are probably still existing, which are computed to be at least 600 or 700 years old. With regard to the prolific nature of the orange, the crops, more especially in an abundant season, are something really surprising. Twenty thousand marketable oranges from one tree seems almost beyond belief, but, as we have before stated, such is a fact; the branches have frequently to be propped up with wooden supports to prevent their breaking. Risso mentions a tree growing at Nice, in 1789, which was more than 50 ft. high, and the trunk of so large a girth that it required two men with outstretched arms to embrace it; this tree usually bore from 5,000 to 6,000 oranges.

The perfume of an orange ground when the trees are in full flower is described as being almost overpowering, which can easily be imagined if one has only experienced the intense fragrance arising from a single tree in flower in a greenhouse. The orange



will grow safely out of doors during most of our warm or temperate months, but it is too delicate to withstand the effects of our winter colds. Very little protection, however, is needed for it; for oranges and lemons have been grown in Devonshire against a garden wall, with nothing more than a temporary shelter. Parkinson refers to its half-delicate nature when he says:—"The orange tree hath abiden, with some extraordinary branches and budding of it, when as neither citron nor lemon trees would by any means be preserved for any long time. Some keepe them in square boxes, and lift them to and fro by iron hooks on the sides, or cause them to be rowled on trundels or small wheels under them to place them in an house, or close galerie, for the winter time; others plant them against a bricke wall in the ground, and defend them by a shed of boardes covered with secuecloth in the winter, and, by the warmth of a stove, or such other thing, give them some comfort in the colder times, but no tent or meane provision will preserve them." A similar precaution to that taken in the middle of the 17th century, of removing them under the protection of a roofed house, is practised now in large establishments where orange trees form an important part of the horticultural treasures. In the Azores—the principal seat of the orange culture—the grounds, which are often many acres in extent, are surrounded by high walls and tall trees, so as to form a shelter from the winds which blow from across the sea. The Mandarin and St. Michael's varieties are largely cultivated in St. Michael's. The first-named is a small fruit, somewhat flattened, with a very thin rind, which separates from the pulp and when the fruit is quite ripe hangs like a loose bag around it. It has a very delicious and sweet flavour, and is, to our fancy, the best orange grown. It is of Chinese origin, where the fruits are used chiefly for presents to the Mandarins. It has been introduced into St. Michael's only a few years, and has proved very successful. It was at one time considered a distinct species under the name of *Citrus nobilis*; the specific name of *nobilis* is now looked upon as a variety of *C. aurantium*, and the Mandarin orange a sub-variety (*Mandarinum*); while the Tangerine, another favourite sort, is also a sub-variety, called *Tangerina*.

The true St. Michael's orange is rather a small fruit, with a thin, pale-yellow rind, and very sweet, seedless pulp. Though it is of a superior quality to many, it is not equal to either of the above. The oranges sold in the streets are mostly, if not always, inferior sorts, having thick wasted rinds and a woolly, tough pulp. The Seville or bitter orange (*Vas bigaradia*), has a thick rind with a rugged surface and a bitter pulp. The rind is used in the pre-

paration of tinctures and for making candied peel. Of this form several sub-varieties are known. The Shaddock (*Citrus decumana*) and the Forbidden Fruit are both sub-varieties of the common orange.

The lemon is said to be a native of the north of India, from whence it passed into Cochin China and China, and likewise into Europe; and it has now become naturalised in the West Indies and in different parts of the American continent. Like the orange, it has varieties, and immense quantities are imported into this country for the sake of their acid juice and essential oil, both of which are such useful culinary adjuncts. One variety, called the Bergamot, is noted for the powerful and peculiar fragrance of its essential oil. An interesting little species of *Citrus* is the Kenuquat (*C. japonica*). It produces a small fruit about the size of a gooseberry, which the Chinese preserve in sugar. They are very delicious, and small quantities are brought into this country and sold at the best Italian warehouses. Oranges and lemons, as we receive them, are gathered before they are ripe, so as to prevent the chances of their spoiling on the journey home. So well and neatly are they packed that it is seldom there is much loss on this score, which is saying something for the gatherers and packers of about 2,000,000 bushels of these fruits, which is about the annual quantity imported into this country.

With regard to the utilisation of the orange, we think much more might be done with it as a culinary fruit than is now the case. It is essentially a winter fruit, and is looked upon mostly in the light of a dessert fruit; but baked or boiled it might be used when other fruits are scarce. For instance, a few good tender juicy oranges, properly skinned, cut up, and placed under a crust as one would do apples, make a really good pie.

J. R. J.

---

To prevent the germination of potatoes during the period of storing through the winter season, it is recommended to expose them to the vapour of sulphurous acid by any of the various well known modes. If not entirely effectual in accomplishing the object, it will retard or modify the spouting of the potato to such an extent as to render the injury caused thereby very slight. The flavour of the potato is not affected in the least by this treatment, nor is its vitality diminished, the action being simply to retard or prevent the formation and growth of the eyes.

## STRANGE DISHES.

---

ALL articles of consumption among civilised people resolve themselves into solid and liquid, and into animal and vegetable; but there occur instances of whole tribes of savages subsisting on, or at least using as food, substances which cannot be brought under any of these classes. The animal and vegetable kingdoms were regarded until lately as the exclusive sources of the food of man, but there can be no question that this is an error, and that some of the mineral substances which enter into the composition of our ordinary provisions are also strictly necessary. Such substances as salt (chloride of sodium) and the earthy phosphates, differ from the food obtained from the animal and vegetable kingdoms in the fact that they are generally combined, and are not used by themselves as food; but for the growth and nourishment of the bones, teeth, and even blood, the phosphates and carbonates of lime and magnesia, which form an ingredient of our ordinary food, are essential. It is, however, mentioned as a fact in Humboldt's "Views of Nature" (p. 142), that there are tribes of Indians, who came under his own observation, who actually eat earth as food. On the 6th June, 1800, on Humboldt's return from the Rio Negro, when he descended the Orinoco in 36 days, he spent the day at a station inhabited by the Otomacs, whose village, called La Concepcion de Urnana, is picturesquely built against a granite rock. The earth which the Otomacs eat, is described as an unctuous, almost tasteless, clay, true potter's earth; the colour, a yellowish-grey, appears to be due to the presence of a small portion of oxide of iron.

The preparation of this unnatural kind of food is made with some care. The earth which is found on the shores of the great rivers Orinoco and Meta, is carefully picked, and kneaded into balls of from four to six inches in diameter; these are then baked before a slow fire, until the outer surface becomes of a reddish colour. It is stated that the earth has different kinds of flavour, and is selected by the palate almost as carefully as our more dainty provisions. Before being eaten, the balls are moistened with water. It would appear that the Otomacs do not adopt this article of food from choice, or that they eat it all the year round. When the waters of the Orinoco and Meta are low, they subsist on turtles and fish, which latter they kill with arrows, shooting the fish with great

dexterity as they rise to the surface of the water. It is during the interval of the periodical swelling of the rivers, which lasts from two to three months, that the Otomacs are observed to devour an enormous quantity of these clay-balls, which are kept piled up in pyramidal heaps in their huts.

Humboldt was informed by an intelligent missionary, who resided amongst them, that an Indian would consume from  $\frac{3}{4}$  lb. to  $1\frac{1}{4}$  lb. of this food daily; it appears, in fact, to constitute their chief support during the rainy season, though whenever they can procure them, they also devour small fish, lizards, and the roots of a fern. This does not arise from any dislike to the clay, for even during the dry season, when an abundance of fish can be obtained they are said still to partake of a limited quantity of their earth-balls after their repast as we civilised people take, as a finish, our glass of wine and walnuts, which are, by the way, scarcely less digestible. Humboldt makes the following observations on this strange diet, and its effects on the human economy:—

“The Indians undoubtedly consume large quantities of clay without injuring their health; they regard this earth as a nutritious article of food, that is to say, they feel that it will satisfy their hunger for a long time. This property they ascribe exclusively to the clay, and not to the other articles of food which they contrive to procure from time to time in addition to it. If an Otomac be asked what are his winter provisions—the term winter, in the torrid parts of South America, implying the rainy season,—he will point to the heaps of clay in his hut. These simple facts do not, however, by any means, decide the questions: whether clay can actually be a nutritious substance? whether earth can be assimilated in the human body? whether they only serve as ballast, or merely distend the walls of the stomach, and thus satisfy the cravings of hunger? These are questions which I cannot venture to decide.”

Various theories have been propounded to account for the phenomenon of a whole tribe of men subsisting, apparently, almost entirely upon earth as their food. Some have, indeed, affirmed that the Otomacs mix up flour and fatty matter with their earth; but this statement has been met with a positive denial of the fact by those who have been conversant with their habits. Some of the earth has been chemically investigated by M. Vauquelin, and he states that it has no such ingredients in its composition. It appears, in fact, very difficult to believe that the earth can be simply a mineral substance or pure clay, for it is irrational to suppose for a moment that life could be sustained by the consumption of a substance the chemical analysis of which shows that it is incapable of affording any material for the sustenance of the living body, and this is the true function of all food properly so called. It would, therefore, seem not improbable that this earth

must contain some of those alimentary principles which serve to build up the body, or to sustain animal heat.

The Otomacs are by no means singular in their adoption of earth as an article of food, and inquiry has shown that the practice prevails among many other tribes, more or less extensively, and chiefly in the tropics. It has been stated by Humboldt, and also by Gilj, that the women who are engaged on the river Magdalena, in the small village of Banco, in burning earthenware pots, continually fill their mouths with large lumps of clay. At San Roija, an Indian child was observed, which, according to the statement of its mother, would hardly eat anything but earth.

It is a remarkable fact that the negroes of Guinea are also in the habit of eating a yellowish kind of earth, called *caouac*. During the time that the slave trade between Africa and the West Indies was in existence, these negroes on their arrival in the plantations would endeavour to procure some similar species of food, maintaining that the earth they devoured was perfectly harmless. It was found, however, that the *caouac* of the West Indies had a deleterious effect on the health of those partaking of it, and its use was strictly forbidden; notwithstanding this prohibition, a species of reddish-yellow earth was secretly sold in the market of Martinique in the last century.

In Java the same practice prevails. Humboldt quotes a statement by Labillardière, who affirms that small, square, reddish cakes are publicly sold as food in their villages. On examining these cakes, which the natives call *tarra ampo* (*tarra* signifies earth in Malay and Javanese), Labillardière found them to consist of a reddish clay. In 1847, some edible clay was sent from Samarang to Berlin, in the form of rolled tubes like cinnamon, for the purpose of undergoing analysis by Ehrenberg, the great microscopical observer. On examination it was found to be a fresh-water formation deposited in tertiary limestone, and composed mostly of animalcules. It has been stated by Labillardière that the natives of New Caledonia, to appease their hunger, eat lumps of a friable kind of soap-stone, in which Vauquelin detected a certain quantity of copper. In some parts of Peru, a kind of calcareous substance is sold as an article of food for the Indians, in conjunction with cocoa.

The eminent traveller and philosopher, whom we have already quoted, comments as follows on the facts we have laid before the reader:—

“We thus find that the practice of eating earth is common throughout the whole of the torrid zone, among the indolent nations who inhabit the most beautiful and fruitful regions of the earth. But accounts have also come from the

north, through Berzelius and Retzius, from which we learn that in the most remote parts of Sweden, hundreds of cartloads of earth, containing infusoria, are annually consumed by the country people as bread-meal, more from fancy (like the smoking of tobacco) than from necessity. In some parts of Finland a similar kind of earth is mixed with the bread. It consists of empty shells of animalcules so small and soft that they break between the teeth without any perceptible noise, filling the stomach, without yielding any actual nourishment. Chronicles and archives often make mention, during times of war, of the employment as food of infusorial earth, which is spoken of under the indefinite and general term of 'mountain meal.' Such, for instance, was the case in the thirty years' war, in Pomerania, at Muskau in the Lausitz, and Kleiken in the Dessau territory; and, subsequently, in 1718 and 1733, in the fortress of Wittenberg."

A satisfactory solution has not yet been found of the facts attested by the high authority of Humboldt, "but," says a writer, "it may be reasonably conjectured that whatever amount of material for the building up of the muscles and formation of the blood could be obtained from such aliment as is here alluded to, must have been derived from the presence of some organic matters in union with the mineral substances devoured." The correctness of this opinion has been strengthened by a careful analysis which, within recent years, has been made of the earth-food of the Laplanders. It was found to contain a large portion of organic matter from the *exuvie* of infusorial animals, and by incineration lost 20 per cent. in weight. Doubtless, the principal value of these earths consists, as conjectured by Humboldt, in their serving to distend the walls of the stomach, and thus receiving the gastric juice the secretion of which would seem to appease the pangs of hunger; the mineral substances they contain can afford but scant nutrition or support to the body. Among the lower animals, the earthworm and some others are known to feed upon earth; and the *Spatangus* and *Arenicola* fill their stomachs with sand.

Besides the edible swallows' nests, the Chinese import as luxuries the *Bêche-de-mer*, or sea-slug (*Holothuria edulis*), which forms an ingredient in the composition of the gelatinous soups and other dishes dear to the celestial *gourmet*. There are six kinds of these slugs generally sought for, the best being those obtained by diving among the reefs and rocks; others are taken by torch or moonlight in the shallow pools, whilst the inferior kinds are gathered by hand from the rocks at low water. The various kinds, when selected and arranged according to their quality, are cleaned, carefully cut open, cooked in large cauldrons in the water which they themselves yield, and are then thoroughly dried on shelves arranged in sheds constructed for the purpose. Large quantities of wood are expended in the process, as the slugs require very perfect preparation before shipment. As giving some idea of the great demand there is in

China for these strange dainties, Mr. W. B. Lord states that one trader obtained amongst the Feejee group, in exchange for various inexpensive articles of barter, \$25,000 worth in seven months; and the importance of the trade commercially may be gathered by the pecuniary return made on one voyage:—Peculs of slugs collected (each pecul consisting of 133 lbs.), 1,200; cost of outfit, \$3,500; return on sales, \$27,000. The value of *Bêche-de-mer* ranges between \$10 and \$60 the pecul, according to quality. They are procured along the shallow reaches and inlets of the innumerable islands of the Eastern Archipelago.

The dreaded *buccaneers* were for many years simply food-hunters, who derived their name from *boucan*, a term applied to a rough species of grate or hurdle used by them to *barbacue*, or jerk, the flesh of the wild cattle they hunted.

Among the hunters of Africa, an elephant's foot, baked in a deep hole beneath the camp fire, is esteemed a great delicacy, as is a buffalo's hump, prepared much in the same manner, by the hunters and trappers of North-west America. These hardy men prepare a very portable and wholesome food, called *Pemmican*, from the flesh of the buffalo.

"Strange Dishes" are not peculiar to any people or clime; the Chinese *cuisine*, with its frogs and puppy dogs, and other nameless abominations, would form a study to those interested on the subject, while that nation of professed cooks, our neighbours across the Channel, are, or were, in the habit of devouring snails, unless, when we were boys, we used to cruelly malign the "frog-eating Frenchman."

Man can draw sustenance from a greater variety of substances than, perhaps, any other animal. Our food is always a compound aliment; thus, with the gluten of wheat a very large proportion of starch is always united in the flour we convert into bread. Substances such as sugars and arrowroots, which are of importance as food, are simple alimentary principles, and, therefore, life could not be sustained upon them. Milk, like bread, is a compound aliment; that is, it contains some principles which go to feed the furnace of respiration, and which form flesh and blood. "Strange Dishes" are not unknown among us English, and the writer has seen the lower classes in the Isle of Man gathering on the beach after the tide has receded, a description of sea-weed which they called "dullish," and which they devoured as they picked it up, all dripping with salt water.

## HOW FISH IS WASTED.

---

To a reflecting mind, the sad and wanton waste of our fish food is indeed deplorable to contemplate. Immediately a fish puts his head, so to speak, within our reach, he is pounced upon by us, to be hurried off and sold, helter-skelter, without one thought or care as to his size or condition; we only wait to see that it is really a fish, and away he goes. There can be but one result of such thoughtlessness. Slowly but surely are our best fishes decreasing, and the increasing price of them speaks volumes for our carelessness. Can we wonder at the scarcity of the oyster, when it is well known what little care we took of him years ago? Conversing some time since with an old seaman, who has been all his life engaged in the North Sea fisheries, we spoke of the oyster, when he complained that the oysters which the fishermen haul up in the trawl nets are no longer the perquisites of the men, as heretofore, and he considered that they were losing a legitimate right thereby. We can well remember when very little care was taken of small oysters, and many of them, when brought to market, bore two or three smaller ones upon their shells; too little to be taken notice of, but thrown aside as useless with the shells, when the large oyster was devoured. Now, it is different. A gentleman of our acquaintance who has studied the question for years, would weep for joy could he now see three small oysters or "spat" upon the shells of his adult estaceous pets! We can recognise the possibility of his predictions when he exclaimed, while lecturing upon this subject, "Behold the last oyster, for to this we are fast coming."

Of all our edible fish, there is none upon which the call is so great, we believe, as upon the lobster, or "cardinal of the deep," as once called by some learned writer, who had evidently not much knowledge of his subject, reminding us of the young lady who, when asked if she liked lobsters, said, "Yes, I like them very much indeed, especially the red ones." Every day this highly-prized fish is looked for with as much precision as we look for the cream in our tea; and our appetite is so nice that we cannot get down a bit of turbot without swallowing scores of lobsters in the shape of spawn. What a pity it is we have any turbot to swallow at all, nor should we, as far as our care is concerned, but for their great



fecundity. Here again we pursue our waste; experience showing us, after careful examination and observation, that nine out of every ten turbot brought to shore are females. The preponderance of female fish over male ones is well known to the trade, this kind being rather over the average.

From the lobster we will glance at his delicate prototype, the prawn. These we find at times literally full of ova ready to be deposited, and which are entirely wasted, and not made any use of at all, as is the spawn of the lobster. Again, the buntings, or small prawns—little things below the average dimensions of shrimps—are caught by myriads, quite regardless of size or value, and are seen almost daily in our markets, where they are sold, either by themselves or mixed with shrimps, for next to nothing.

Of course such a fish as the cod does not escape our rapacity, and we eat hundreds of thousands of their ova with great gusto without a thought of the waste; nor do we stop here. We have hooked and trawled for haddocks at all seasons, until the supply is limited, and now we seize the baby codlings, hurry them off to market, where the costermonger converts them in a few hours into real "Finnon Haddies." And so the waste goes on.

Whitebait used formerly to come in the summer, but now we cannot wait for the legitimate supply, and so the Firths of Scotland must be dragged for the soil, or fry, of the herring, to act as a substitute. Here too is wanton waste of essentially a poor man's fish! Again, nearly every box of soles which enters Billingsgate Market contains a large quantum of very small soles, or "tongues," as they are called by fishmongers, and which are nearly worthless. Then why bring them to market, we ask? Why, partly to deceive the purchaser; and partly because the Frenchman buys them up, and actually makes soup of the infants of one of England's staple fish! We devoutly wish that "Mossoo" would stick to his frogs, and not show such a wasteful predilection for our English "tongues."

We still have people with appetites sufficiently debased to crave for the roe of the salmon; but, thanks to legislation, their attempt at spoliation is futile, if we exempt the Frenchman, who somehow does manage to obtain a supply of foul salmon in spite of the vigilance of our salmon inspectors.

As a counterpoise of the foregoing, we are justified in calling attention to the wonderful effects of salmon cultivation and protection already manifest, and we may reasonably be allowed to hope, that some of this, at least, is due to the exertions of those who have so long had the cause of the salmon at heart.

W. M.

## MARKETS OF THE MONTH.

---

IMMEDIATELY after writing my last account the corn market became flooded with supplies from all directions, and as much as 3s. per quarter less money was taken to effect sales. Millers, however, do not appear to be cognisant of this fact, or perhaps they regard the state of affairs as merely temporary, and not worthy of their august consideration, but surely the public might have had the benefit in the form of cheaper bread, even if the cheapness were only temporary, as probably it will very soon be proved to be; for just after harvest small farmers, with but little capital at command, are wont to send their corn to market with as little delay as possible.

At Mark Lane, recently, prices, though not actually any lower, have had a drooping tendency; the average rates during the week ending October 14th, were for wheat, 63s. 7d.; for barley, 45s. 4d.; for oats, 32s. 4d.

Trade in the meat market is quite at former rates.

In the potato market prices are higher, in consequence of many crops turning out worse than was expected. Although, however, there are serious complaints from many districts, I think it may be safely asserted that we are not one half so badly off as we were last year. Prices range for best sorts from 5l. to 6l. 10s. per ton.

Coals have advanced during the past month, and rumours of strikes and reported sayings and doings of the pit owners point, I fear, but too surely towards a further advance shortly.

In the fish market prices rule high; oysters this year are dearer, inferior sorts making as much as 2s. per score; natives, 4s. 6d. Cod is making from 5d. to 8d. per lb.; soles, 1s. to 2s. 6d. per pair; haddocks, 6d. to 2s. 6d. each; whittings, 2d. to 5d. each; red mullets from 9d. to 1s. 6d. each; fresh herrings, 9d. to 1s. per dozen; brill from 4d. to 6d. per lb.; turbot from 8d. to 10d. per lb.; lobsters from 1s. 9d. to 4s. each; smelts are plentiful, price 1s. 9d. to 3s. per seve; plaice are cheap; John Dory may occasionally be seen; eels are 6d. to 10d. per lb.; and there are now, in addition to those I have mentioned, hake, ling, gurnet, and many other kinds of fish in season, besides cured fish, such as kippered haddocks, kippered herrings, kippered salmon, bloaters, etc.

The trade in tinned vegetables and fruits is largely on the increase, but preserved apricots, in halves, are conspicuous by their

absence this season, probably in consequence of the troubled state of Spain, whence we derive the larger part of our supply.

American cove oysters, in tins, are plentiful, but French, which are vastly superior, cannot be obtained. Prices this year are, for pint tins, peas, 8s. 6d. to 13s.; macedoine vegetables, 10s.; haricots verts, 9s.; flageolets, 10s.; mushrooms, 9s. 6d.; asparagus, two-and-half pint tins, 24s. per dozen. Portuguese fruits are making, peaches, halves, pint tins, 12s.; cherries, stoned, 9s.; and whole cherries, 9s. per dozen tins. In bottles, tomato conserve, pints, 12s., half-pints, 8s.; olives, pints, 7s., half-pints, 5s. per dozen bottles. Raisins, sultanas, and currants may be quoted cheaper this season; a good class of currants for 42s. per cwt., a good class of sultanas for 50s. Sugar continues very cheap, but coffee is dearer; fair serviceable moist sugar may be obtained for 36s. per cwt.; loaf, for 42s. per cwt.; Cauliflowers are worth from 2s. to 3s. 6d. per dozen; tomatoes, 7s. to 8s. per pad; celery, 1s. 9d. to 2s. per dozen; fresh truffles, 2s. 6d. to 3s. per lb.; mushrooms, 2s. to 3s. per punn; scarlet runners, 3s. 6d. to 4s. per bushel; lemons from 37s. to 45s. per chest; Oporto onions, 10s. 6d. to 13s. 6d. per case; apples, cooking, 5s. to 7s., dessert, 7s. 6d. to 10s. 6d. per bushel; onions are remarkably cheap this year, 1s. 9d. to 2s. per bushel; carrots and turnips too are plentiful; chesnuts have arrived now, price from 10s. to 15s. per bushel; and medlars, French, 5s. per basket; Hambro grapes, 8d. per lb; Almeria grapes from 19s. to 30s. per cask; Jersey, 2s. per lb.; forced, 2s. 6d. to 5s. for black, and 7s. to 9s. for white muscats. Of dessert pears there are many varieties at prices ranging from 10s. to 15s. per pad; and there are a few stewing kinds selling at from 12s. to 15s. per bushel. Hothouse pines are making 5s. to 7s. per lb.; hothouse melons, 4s. to 6s. each, water melons, 1s. 9d. to 2s. 6d. each. Chickens are worth from 1s. 9d. to 2s. 3d.; fowls from 2s. 6d. to 3s. 6d.; pullets from 3s. 9d. to 4s. 6d.; capons from 5s. to 7s. 6d.; geese from 5s. 6d. to 9s. 6d.; turkeys, 7s. 6d. to 11s. 6d.; ducks from 2s. 6d. to 3s. 6d.; hares from 3s. 6d. to 4s. 6d.; golden plovers, 1s.; green plovers, 9d.; woodcocks, 3s. 6d. to 4s.; pheasants, 4s. 6d. to 5s.; snipes, 1s. to 1s. 3d.; black game, 3s. 9d. to 4s. 6d.; grouse, 3s. to 4s.; partridges, old, 1s. 6d., young, 2s. 6d.; pigeons, 9d. to 1s. 4d.; rabbits, 1s. 3d. to 1s. 6d. each; larks, 1s. 6d. to 2s. per dozen. Partridges, grouse, and pheasants are very dear this season, hares and rabbits are also dearer than they were last year. Hams and bacon are expensive, the former from 11d. to 1s. 2d. per lb., the latter, prime quality, 1s. to 1s. 2d.

P. L. H.

*October 21st, 1873.*

## NOTES OF THE MONTH.

---

THE manufacture of sugar from beetroots is a subject of considerable importance. On the continent the beet sugar industry has effected a complete social revolution, and we are told that its introduction into Ireland would produce equally gratifying results. The soil of this country is peculiarly adapted for the production of root crops. It has been abundantly demonstrated that Irish-grown beetroots are quite as good as those used in the sugar manufactories on the Continent. Many years ago, an elaborate series of experiments was made in the Museum of Irish Industry, to test the properties of beetroots grown in Ireland, and it was proved to the satisfaction of the experimenters, "that the quantity of sugar present in Irish-grown beetroots is in no way inferior to that usually found in the beetroots used in the sugar manufactories of the Continent, and that in some cases the percentage of sugar yielded by Irish beet approaches to that afforded by the sugar cane." This extract is taken from a report drawn up by Sir Robert Kane more than twenty years ago, and the opinion which it expresses is confirmed by the Rev. Professor Jellet. Early in the present year the learned president of the Royal Irish Academy reported to the Academy the result of a variety of examinations of Irish-grown beetroots. These examinations were made by the saccharometer and by optical experiments, and it was ascertained that beetroots grown on Irish soil gave an average of 12.54 per cent. of sugar. It appears that this is a very good percentage, for Professor Jellet further reported to the Academy that "the amount of saccharine matter thus shown to exist in Irish beet was quite equal to that in roots grown in Germany, Belgium, and France, and proved that sugar beet might be grown in Ireland with great advantage." There can hardly be a doubt that the soil of Ireland is adapted to the growth of beetroots, and it seems equally clear that the manufacture of sugar is a profitable business. With these two facts before us, we think it strange that Ireland has made no progress in this important branch of industry; but we are pleased to observe that the subject has attracted the attention of a Dutch gentleman, who has made the manufacture of beet sugar his special study. Having satisfied himself of the favourable conditions which the country possesses for the production of sugar, he proposes to form a company

for the manufacture of beetroot sugar in Ireland. He is so thoroughly satisfied of the ultimate success of the proposed undertaking that he is willing to supply half the capital for a first factory, and to devote his entire time to the management without being entitled to receive any dividend or remuneration for his services until after the other shareholders shall have been paid a preference dividend of six per cent. The first factory erected will be adapted to work up 12,000 tons of roots in the season, one half of which the company intend to grow on their own farm adjoining the factory, leaving the other half to be supplied by the neighbouring farmers. We do not see any reason why the project should not be successful. The chief element of success is the adaptability of the soil to the growth of the roots, and there is nothing to be desired in this respect. In a country where manufacturing industry is so much restricted as in Ireland, any earnest attempt to develop its resources must be regarded with satisfaction. On the whole, the food prospects of Ireland cannot be regarded as satisfactory; but when we consider how much might be done by the introduction of an undertaking similar to the one now proposed, we are inclined to the belief that such a step would in a measure insure success, and become another towards Ireland's ultimate prosperity.

---

THE recent case of alleged poisoning has given rise to much comment, and with reference to the supposed difficulty of distinguishing edible mushrooms from the poisonous fungi, a contemporary asks, "Is it impossible for science to come to our relief, and teach us to be wise in so simple a matter? We have our heads in the stars and are most learned as to the constitution of the sun. Surely science might stoop for a little to the earth and teach us to identify the poor little mushrooms at our feet—which are good and which are bad." It may be interesting to our readers if we furnish them with some few scraps of information which should serve to assist in distinguishing such varieties of the plant as may be eaten with safety. Of those indigenous to this country may be mentioned the common field or garden mushroom (*Agaricus campestris*) used for making ketchup, and eaten either raw, stewed, or broiled, and the morel (*Morchella esculenta*), used for flavouring soups and gravies. There is also the common truffle (*Tuber cibarium*). No simple test appears to exist by which the edible and poisonous varieties can be distinguished from each other, but of the former it may be said that they are usually found in dry airy places, and are of a white or brownish colour, being compact and brittle. When cut, they do

not change colour by the action of the air, their juice is watery, their odour agreeable, whilst as regards taste they are neither bitter, acrid, nor astringent. Poisonous mushrooms, on the contrary, grow in clusters, in woods and dark, damp places, usually with bright colours, being tough, soft, and watery. When cut and exposed to the air they acquire a brown, green, or blue tint, their juice is milky, their odour disagreeable, and their taste acrid, astringent, acid, salt, or bitter. In cases of suspected poisoning, vomiting should be induced, and a strong cathartic administered. As an antidote the following has been suggested: a solution of  $\frac{1}{2}$  dr. of tannin in  $1\frac{1}{2}$  pint of water, or a decoction of  $\frac{1}{2}$  oz. of powdered galls, or of 1 oz. of powdered cinchona bark in a like quantity of water. The hints given here as to distinguishing the edible mushroom are not, of course, to be considered as applicable to every case, still they will be found generally reliable.

---

MESSRS. J. C. SILLAR & Co.'s circular for October states that the subject of spurious tea has again been brought prominently before the public. A sample, representing upwards of 300 chests, has just been pronounced by the Officer of Health for the City to be unfit for food, being composed of exhausted and putrid leaves. Hundreds of tons of this description of tea are known to be stored in the bonded warehouses, and still the Government confess their impotence to interfere. Such a thing would not be tolerated in Berlin for ten minutes, but the English are as thoroughly lawyer-ridden as the people are priest-ridden in some Romish countries. The Government are bound to inspect all the bonded warehouses, and to destroy all teas unfit for human food found therein, be the owners who they may. As far as the expense goes, they ought well to afford this, considering that upwards of ten thousand pounds per day is received for duty upon tea consumed in this country, and it is to be regretted that part of this duty has been collected upon some of the very tea which has been pronounced unfit for food.

---

THE approach of winter invariably gives rise to one momentous question—how will the poorer classes of people fare during the period when, in addition to the evils which press upon them in consequence of scant employment, they have to encounter those arising from an increased value of the necessaries of life? It would be well indeed if habits of thrift and prudence could be relied upon for diminishing the evils to which the poorer classes

of society are invariably exposed in seasons of high prices and diminished employment; but unhappily such habits appear altogether repugnant to the spirit of those who by reason of the very precarious nature of their earnings stand most in need of them. Such being the case, it is no great wonder that many who during the summer months earn excellent wages are, when winter appears, unable to keep themselves free from difficulties which a little foresight might have greatly diminished or entirely prevented. Some unfortunately are so placed that with them, summer or winter, it is a constant struggle against the arch-enemy—poverty, and upon these the charity of the benevolent will not be likely to produce such evil results as often spring out of well-meaning, but indiscreet almsgiving. It is to be feared, however, that many of those who are recipients of the bounty of their opulent neighbours are frequently ill-deserving of any consideration, not by reason of any indolence on their part, but in consequence of their habits of extravagance and imprudence.

---

THE increased use of tomatoes as a culinary vegetable in this country has been the means of bringing forward many admirable recipes for preparing them for table. Not many years since a strong prejudice existed with many people against their use, except for the preparation of the well-known tomato sauce. Tomatoes are now, however, rising rapidly in favour, and as they are very easily grown, will, no doubt, become as generally used here as they are in America.

Our contemporary, *The Garden*, makes some excellent remarks on the uses of the tomato, which we have much pleasure in reprinting for the use of our readers. We are told that:—

“In America, greater quantities are probably eaten raw than in any other way, and the manner of dressing them varies greatly; some persons use only vinegar and salt; others vinegar, salt, and oil; while others prefer sugar and cream, as for strawberries. We prefer them with a salad dressing of raw eggs, mustard, oil, vinegar, salt and pepper, or with a mayonnaise dressing, such as is used for lobster and chicken salad. Tomatoes should always have their skins removed by pouring boiling water over them, and, after being cut in thin slices, should be placed upon ice to make them crispy cold; if eaten in a tepid state, their fresh flavour is much injured. The salad dressing should also be served in a separate dish, and served as pudding sauce or gravy. Tomatoes to be eaten raw should always be of the finest quality, as their superiority is more readily discerned than when cooked. It is difficult to spoil tomatoes, even if badly cooked, provided that bad butter is not added to them; but one can change the modes of cooking them so as to provide a pleasing variety. The following are American modes cooking them:—

*"Stewed Tomatoes.*—Select very ripe tomatoes, skin and slice them, rejecting the hard parts; put them into a porcelain saucepan with a little salt and pepper, and simmer for 1½ hour; add a piece of butter, or 2 teaspoonfuls of beef, mutton, veal, or chicken gravy. Toast a slice of bread, cut it into inch bits, and put it into the dish in which the tomato will be served, turning the contents of the saucepan over it.

*"Another way.*—Take 1 doz. good sized tomatoes, skin and slice them; put them in a saucepan and boil for 1 hour; season with pepper and salt, then strain through a sieve; put back into the pan and add 2 well beaten eggs; stir rapidly for 5 minutes, then turn out and serve. This is very delicious as an accompaniment to roast beef or mutton.

*"Baked Tomatoes.*—Select thoroughly ripened fruit, cut them in halves, sprinkle over the cut half with bread crumbs, sugar, salt, pepper, and butter; place them in a baking pan, cut-side upwards, and bake in an oven for 2 hours. Serve on a platter garnished with curled parsley.

*"Baked Stuffed Tomatoes.*—Select very large sized Trophy tomatoes, and cut out a space at the stem end, taking care not to break the outer skin, fill up this cavity with a stuffing of bread, rubbed through a cullender, butter, salt, pepper, and a little sugar; put back the stem end, which should have been cut out in a circular form, carefully, so that it will fit in closely; place the tomatoes in a baking pan, and bake for 1 hour. If well managed they can be made to retain their shape.

*"To Broil Tomatoes.*—Broiled Tomatoes make a delicious dish. Select those that are not over-ripe, and cut them in halves, crosswise; dip the cut-side into beaten egg and then into wheat flour, and place them on a gridiron whose bars have been greased previously. When they have become well browned, turn them over and cook the skin side until thoroughly done; then put butter, salt, and pepper upon the egg side, and serve upon a platter.

*"Tomato Soup without Meat.*—Take 1 doz. good sized very ripe tomatoes, skin and chop fine, put into a soup kettle, boil for 10 or 15 minutes, add a bit of saleratus\* as large as a pea, stir till it stops foaming; turn in one pint of fresh sweet milk and then Boston crackers rolled fine; season with salt, pepper, and a good piece of butter. Boil for 15 minutes."

We can confidently recommend the recipes for stewed and baked tomatoes, but we think the latter are equally good without sugar, and we have found them to become properly cooked in much less time than two hours.

---

THE British housekeeper, who groans under the ever-increasing amount of the butcher's bill, will be glad to hear that the importation of live bullocks from America is now an established fact. Two of these bullocks were brought over about the end of July by Messrs. Henderson Brothers, the owners of the Anchor line of Clyde and New York traders, and landed safely in Glasgow. These were succeeded by two in each of the two following steamers, and all met with a ready demand. Messrs. Bell & Sons, early in

---

\* A preparation of carbonate of soda and salt.



August, began to import on their own account, and brought over six in most of the steamers arriving that month. In September the numbers increased to ten per steamer, and the "Olympia" brought over twelve. The total import of bullocks in July numbered four; in August, thirty-eight; and in September, no fewer than seventy-two bullocks were landed at Glasgow from New York. If this importation of live meat from America, and dead meat from Australia continues and increases to any extent, it should ultimately affect the price of butcher's meat in this country.

---

THE recent attempt to import meat from the Antipodes in a frozen state has resulted in what probably is nothing more than a temporary failure. Indeed, although much natural disappointment was felt by all interested in the question when it was discovered that, through some faulty construction of the apparatus used, the meat subjected to experiment had been undergoing the process of decomposition, there is no reason why future attempts should be discouraged. On the contrary, the fact that pressure of time prevented any trial of the apparatus prior to the starting of the vessel justifies the conclusion, that to this cause, and not to any defect in the system of preservation, the failure of the recent experiment is to be attributed. In all probability a second attempt will be attended by results of a far more satisfactory character.

---

AMONGST the arguments advanced by teetotallers against the use of strong drink is the fact that many animals of surpassing strength drink nothing but water. This logic, however, is somewhat loose, as if we are to take example by the beasts in drinking, why not in eating also? It is scarcely to be believed that a teetotaller arguing for the use of water on the ground that the horse, who is swift and strong, drinks nothing else, would care to be dieted according to equine notions of alimentation upon a substantial meal of oats and beans. In truth, analogy is very apt to lead its employers into error, as those persons should remember who affect to diet children rather in accordance with their own habits and notions than with any regard to those differences of taste and temperament in the young, which should always be carefully observed. Thus we find some persons insisting that children should be "compelled to eat fat," and others again declaring that "meat is not at all good for children, but puddings are excellent." It is a joke, perhaps, that

what would poison a Mussulman would fatten a Christian, but it is a truth as clear as day that food eagerly sought after by one child, and taken with advantage, will be as promptly rejected by another, but in neither case is it possible that the action can be the result of mature reflection. No! it is rather instinctive, and wisdom would do well to observe and respect it.

---

## CORRESPONDENCE.

---

*To the Editor of the "Food Journal."*

SIR,—I have perused Mr. Day's paper on the "Food of Man," in the October part of your valuable magazine, with interest, but would point out an inaccuracy which, perhaps, he will excuse my bringing to his notice. From many years experience of the people of Arabia, I can assure him that he is mistaken in stating that they "take entirely to animal food." On the contrary, they subsist on *dates and milk*, and for months the Bedouin Arabs consume *nothing else*. The Soomaules, who inhabit the country in the neighbourhood of Cape Guardafui and Berberah, when "on the war-path," in which they pass half their lives, live entirely on *milk*.—Your obedient servant,

C. R. LOW,  
Lieutenant late H. M. Indian Navy.

---

THE FRENCH WINE TRADE.—Recent advices state that prices have been pretty well supported in the vineyards of the South of France. In Burgundy and the Bordelais the quality of the wine will, it is feared, be indifferent this year. On the whole, the season is expected to be a bad one for those districts.

CONCENTRATION OF WINES BY FREEZING (*Turbinage*).—The *Comptes Rendus* state that Melsens finds that when ice is formed in alcoholic liquids by freezing them, such ice does not contain any alcohol, the whole of this substance present being contained in the unfrozen portions. In order to remove the ice from wine treated in this way, the drainer (turbine) of the sugar refinery affords the most convenient means. The author does not, however, tell us the use of it when it is done.

WE learn that the cultivation and export of oranges and lemons are on the increase at Palermo in consequence of the large demand from the United States, which consumes five or six times the quantity taken by England. From Messina, however, the shipments fell from 966,000 boxes in 1871 to 785,000 in 1872, in consequence of the destruction of a large portion of the lemon trees in that province by the disease called *mal di gomma*, for which no remedy has yet been discovered.

ERRATUM IN OCTOBER NUMBER.—On page 341, line 29, article "Mineral Waters of Bath," instead of "threatened to cast a toast into the waters," read "threatened to cast a *toad* into the waters."

## DOMESTIC RECIPES.

---

*The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.*

---

### HOT PINT.

Hot Pint (*Scotticé*, Het Pint) was in former times a favourite winter beverage in Scotland, and is still used, especially by old-fashioned people. It is made by heating strong ale till it boils, and pouring it upon biscuits (soft biscuits containing butter) broken small, with the addition of eggs well whisked, sugar, and whisky. The proportions are 1 quart of ale, 2 glasses of whisky, 2 biscuits of moderate size, 2 eggs, and sugar according to taste. The whole is well stirred together, and used whilst hot. When children are to partake of it, table beer is substituted for a portion of the strong ale. In many families it is the custom to make a bowl of hot pint regularly on the last night of the year, for the regaling of all the members of the household. Currant bun, short bread, or bread and cheese very generally accompany it.

---

### PICKLED GREEN TOMATOES.

Cut in slices, sprinkle with salt, and let them stand over night, the same as other pickles; after remaining twelve or fifteen hours in the brine, drain well and place over the fire in fresh water, changing it several times, until nearly all the salt taste is washed out; they should be allowed to get thoroughly scalded and become partially cooked. Now drain again, and make a syrup of a pint of good vinegar, 3 lb. of sugar,  $\frac{1}{2}$  oz. of cinnamon, and  $\frac{1}{2}$  oz. of cloves; this will make syrup for a gallon of pickles; put the tomatoes into the syrup when it is boiling hot, and cook until tender, then carefully lift them out and reduce the syrup by boiling it longer; after a day or so they should be heated over, care being taken to prevent the tomatoes from being cooked too much.

---

### TRIFLE.

Cut six sponge cakes in halves; spread them with jam; stud them with almonds; soak them with three glasses of wine, and cover with custard; add a whip of eggs and scatter "tens of thousands" over it.

---

### A GOOD SODA CAKE.

Mix 6 ozs. of butter with 1 lb. of flower, and work it into small crumbs; mix with this  $\frac{1}{2}$  lb. of sugar,  $\frac{1}{2}$  pint of boiling milk, 3 eggs, a little grated nutmeg, and 8 ozs. of currants; beat the whole well and lightly together; then strew over it a very small teaspoonful of carbonate of soda, finely powdered; beat the cake again for three or four minutes, and bake it from one hour to an hour and a half.

---

*\*\* Every communication intended for insertion in the "Food Journal," should bear the name and address of the contributor, not necessarily for publication, but as a guarantee of good faith.*

THE  
FOOD JOURNAL.

## THE PRICE OF MEAT.

## PART II.

It is clear from the figures in my former paper that the mere numerical increase of our population has had very little to do with the price of meat. If that had been all, our farmers have shown themselves quite equal to the situation, since in the face of such difficulties as they have had to contend with during the years 1871-2, they have, in those years, added 800,000 cattle and more than two million and a half of sheep to our stock, pigs remaining about the same. It is difficult to say what proportion of these additional animals should be considered as increased breeding stock, and how many available for the butcher. It may be assumed that as our stock had fallen below its proper level, in consequence of the dry seasons of 1868 and 1870, our graziers would require to make up their numbers again; but taking the same proportion of this extra stock as that which is usually taken in the course of trade, viz., one-fourth of the cattle and 42 per cent. of the sheep, we get the following weight of meat available for food in 1873 that we had not in 1871; taking the weight of the cattle, including calves, at an average of 560 lbs., and that of the sheep and lambs together at 60 lbs. :—

One-fourth of  $800,000 \times 560 = 112,000,000$  lbs.

$$42 \text{ per cent. of } 2,560,000 \times 60 = 64,512,000 \text{ ,,}$$

**Total gain of meat = 176,512,000 lbs.**

Now, as we consume about 100 lbs. per head per annum in England, to which the increased consumption of meat is chiefly confined, the above increase would be sufficient for the wants of 1,765,120 people, a number which is about equal to the growth of our population in *seven* years, *i.e.*, we have produced in two years meat enough to have met the demand arising.

from seven years' increase of population, if that had stood alone. But unfortunately it did not stand alone. Our population of to-day is of a very different character to that of ten or twenty years ago. The census report tells us that "the urban districts have grown more than twice as fast in the last ten years, and more than four times as fast in the previous decade, as the agricultural districts." In fact, it is in our towns that the increase of population is to be looked for, and will be so always. The agriculture of a limited area cannot employ more than a certain number of persons; hence there is always a gravitation towards towns and town employments.

Now, town people are essentially meat-eaters. In the country, where there is plenty of fresh air, health can be maintained on a farinaceous and vegetable diet, with a small proportion of animal food; but in the highly carbonised air of towns meat is a necessary of life. Town wages, too, run higher; mechanics, skilled workmen of all kinds, clerks, shop attendants, all require and can afford meat. Then, again, there is the great rise in wages that has taken place within the last four or five years. We may, perhaps, treat lightly the stories of colliers and champagne, pine-apples, etc.; but there can be no doubt that the free use of meat in so many thousand more homes must have thrown a pressure on the meat market far exceeding that arising from any other cause. An increase of population alone would have caused an equal demand for bread and for meat, but the pressure arising from increased wages falls chiefly on the meat supply, and we may estimate its effect by the parallel growth of the consumption of beer and spirits. It is not the few thousand drunkards, nor the excessive indulgence of our much-maligned friends, the colliers, that will account for the growth of the Excise revenue, but the steady daily consumption of the millions of moderate drinkers. The daily half-pint at dinner and another at supper—a very modest allowance in itself—comes to a good many gallons when multiplied by the 365 days of the year. So, too, a daily pound of meat in another million homes comes, in the course of the year, to more than double the whole increase that we have gained since 1871, and to nearly three times the amount of our foreign imports of live stock in the year 1872. This is where the shoe pinches.

But there is another aspect of the question: the increased and constantly increasing cost of production. Rent, rates,\* wages the

---

\* It is wholly foreign to the objects of the *Food Journal* to enter into political questions, but it may just be noted in passing, as a point that bears closely upon our present subject, that at the meetings which are held on Clerkenwell Green

price of agricultural implements and manures, are all rising. This cause is operating abroad also, at the same time that the growing wants of European States limit the supply that we can ever hope to derive thence. We therefore cannot expect any very great relief from that source. As yet it has done us more harm than good, and although it would be a material gain, indirectly, if Professor Gamgee can, with his new plan of transport, confine this foreign trade to dead meat, thus cutting off a chief source of disease, and allowing our own stock to increase without hindrance; yet the direct help is not nearly so great as is commonly supposed. Our imports from abroad have, during the last six years, only averaged 193,000 cattle, 664,000 sheep, and about 50,000 pigs a year.

When we look further afield we certainly open up some vast resources, and there are indications that it will not be very long before we shall avail ourselves of them. The distance is too great to allow of the importation of *live* cattle from either North or South America. It has been tried, and some 120 head have been brought from Canada within the last four months, but the ocean freight on a ten days' voyage consumes too large a portion of the profit. It is said, however, that a number of vessels are about to be constructed on the principle of the refrigerator cars which have long been used with such success on the railways in the United States. The animals will be killed on shore, and cut up into quarters, which will be packed in ice-tanks, and delivered in London or elsewhere nearly as fresh as if they were killed by our own butcher. Or it may be found preferable not to freeze the meat, but only to expose it to a current of dry cold air, with the additional protection of some slight chemical treatment. That is a matter for experiment, but the problem is at any rate not so difficult of solution as that which failed so completely (for the present) in the case of the *Norfolk*, from Australia, which had a 90 days' voyage and all the heat of the tropics to contend against. The meat will never compare with our best qualities, even if it should succeed in making its way against British prejudice; but it will be a great boon to the masses who care for quantity and price rather than for quality, and, if this scheme should answer the expectations of its promoters, it is quite possible that we may then find the solution of our long-perplexing problem.

---

and elsewhere, to demand the removal of all taxes on food, a favourite argument is that more of the national burden should be thrown upon the land. It does not appear to occur to these people that, to remove the taxation on food by throwing it on the *producers of food*, is rather a suicidal process.

But even then we find ourselves face to face with another difficulty. We have at present 32,000,000 people to feed ; we shall have upwards of 42,000,000 by the end of the century, with an ever-increasing preponderance of meat-eaters. Will *any* external aid be sufficient to meet this extra demand ? If not, any reduction that may be a first result of opening new sources of supply will only be temporary, to be met in a few years time by such renewed increase as will send up prices again. Must we not, after all, be dependent for our main supply upon the produce of our own pastures ? It is not a question of mere *food*—that we need have no anxiety about—it is a demand for *fresh meat*, and that of fair quality too, that we have to consider, and for that, I think there is very little doubt, we must look at home. The important question for us, then, is:—“Are our own resources capable of any very great expansion ?”

I believe they are ; but to obtain it we must have a very much larger amount of capital invested in the soil, and that capital must have such protection from wise legislation as will draw the money freely. In a word, and not to go beyond the province of this journal, we want the supply of food for the people to be made the subject of commercial enterprise ; and if this were done, there is no reason why meat manufacture should not be developed in the same way that other manufactures have been developed. What can be done in this way is shewn us by such experiments as those of Mr. Coleman, who, by adopting a new mode of irrigation, is enabled to feed 2,600 sheep upon land which, under the ordinary system, would probably be overdone with 260. But we cannot have such extension of food producing power whilst tenants' capital is at the mercy of a six months' notice.

All this, however, lies in the future ; what we are concerned with, just now, is the present, and my own opinion—*valeat quantum*—is that we must not look for any very material reduction in the price of meat of prime quality at present. Inferior qualities will, no doubt, come down a little, and store stock is easier to buy, for Ireland, growing very few turnips or mangolds, and having, therefore, very little winter keep, is glad to send her surplus stock over to us. Here our root crops are good, and the area occupied by them somewhat larger than usual, so that we have abundance of food for our increased stock. We have therefore, just now, a combination of favourable circumstances which ought to tell upon the price of meat, but it will be chiefly in the inferior qualities.

GEORGE WALTERS.

## THE STAPLES OF CEYLON.

## COFFEE.

*Coffea arabica*, or *Jasminum arabicum*.

ETHIOPIA is supposed to have been the native region of the coffee tree. It was in use in the fifteenth century in Arabia, and over the rest of the east, and was introduced into Egypt and Constantinople in the sixteenth century. In the seventeenth century it was carried from Mocha to Batavia.

The first coffee-house in London was opened in 1652. Jessie, in his interesting work on London, alludes to the coffee sold, in 1658, at the Rainbow Tavern, the proprietor of which, James A. Barke, was threatened by the ward of St. Dunstan, the words of the writ running, for making and selling a sort of liquor called coffee, and which was designated as a great nuisance and prejudice to the neighbourhood. It is presumed that this feeling against coffee, as a beverage, was fostered and promoted by the dealers in intoxicating drinks, as they dreaded that this new beverage might interfere seriously with their profits. Howell speaking, in 1659, of the curious and eccentric traveller, Sir Henry Blount, observes:—"This coffee drink has caused a great sobriety among all nations; formerly apprentices, clerks, etc., used to take the morning draught in ale, beer, or wine, which often made them unfit for business; now they play the good fellow in this useful and civil drink."

The Viennese appear to share, with other Germans, in the love of coffee, and the permanent and temporary coffee-houses are numerous. The first coffee-house in Vienna was established in 1683, on the Turks raising its siege, a quantity having been found when the Mussulman camp was plundered. Kolschitzki, Stahremberg's faithful servant, was allowed, as a reward, to establish the sole coffee-house in Vienna. The monopoly was abolished at his death, but the "chief" of the Coffee-houses' Corporation, in Vienna, is compelled, the writer believes, to have, even at this day, a portrait of Kolschitzki in his official residence.

The introduction of the coffee tree into Ceylon was probably effected by the Arab traders, as the Portuguese found it on their occupation of the maritime portions of the island in 1517. The



natives appeared to value it more for the flowers than for the fruit, and it formed a portion of their floral offerings to Bhudoo. On the British taking possession of the interior of Ceylon, they found it extensively cultivated in the Kandyan province, and trees of great age were met with. At the village of Hangurauketty, where there existed a royal palace, with extensive gardens, the old coffee trees, planted under the Kandyan dynasty, were seen by the writer, a few years ago, growing to a great size and luxuriance, utterly uncultivated, and a perfect jungle; and, in many cases, the roots of some of the most healthy and fruit bearing trees were growing in the fissures of large rocks. Under the Dutch *régime*, the cultivation of coffee was not extended, their policy being to promote its growth in Java, and that of cinnamon in Ceylon, both articles being regarded as close monopolies. From the absence of any great drought, and from the comparative regularity of the two monsoons, the climate of Ceylon seems specially adapted for the cultivation of the berry. The one monsoon sets in in time to promote the formation of the fruit; the other to bring it to maturity. The strength of constitution, or the vitality of the coffee tree, is such, that although it may seem to, and does indeed, suffer from any abnormal drought, yet it speedily revives under the influence of refreshing showers.

There is one point, it has been remarked, in regard to coffee, as an article of consumption, the solution of which has never been discovered, viz., how was the knowledge of the fact arrived at, that this berry, the pulp of which was rejected as useless (save for the purposes of manure with other substances), and whose seeds were protected also by a similar useless integument, and in their natural state most disagreeable and repulsive, could be rendered, by the process of roasting by fire, most acceptable to the taste, as also exhilarating in a very marked degree.

This inquiry, after all, partakes more of curiosity than of practical utility, and may therefore be dismissed, without chagrin, at the mystery being unsolved.

In 1809, according to the records of the Dutch Government, the production of coffee in Ceylon, both for consumption and export, was about 250,000 lbs. From that period the production continued steadily to increase, but it was in 1836, when the equalisation in England of the duty on East and West India coffee took place, that European capital and skill were brought to bear, and that to a large extent, in reference to the cultivation of the berry.

Prior to the equalisation of the duties, the import duty on Ceylon coffee in England had been 9d. per lb. In 1836, as just remarked,

the duty was reduced to 3*d.* per lb., or 28*s.* per cwt., and, as the demand for the article continued undiminished, an equal rise of the price of coffee in bond simultaneously took place, the price to the consumer remaining much as before, and the importer reaping the benefit.

The fiscal treatment which coffee has experienced has, in spite of the increased population of the United Kingdom, led, of late years, to a sensible decline in its consumption in this country. There have been no less than five "Treasury Minutes" on coffee, viz., in 1832, 1840, 1852, 1853, and 1863.

Between November, 1852, and February, 1853, two entirely contradictory "Treasury Minutes" were published, upon "mixture" with coffee, one prohibiting, the other legalising the sale. The British public got frightened, the medical journals having invited attention to the subject, and the consumption in the United Kingdom fell from 37½ million lbs., or about 135 per head in 1854, to 29,200,000 lbs., less than 1 lb. per head in 1869. The late reduction of the duty is a step in the right direction, and, as the existing duty is probably under 200,000*l.*, and bringing but little *net* revenue into the imperial exchequer, the Chancellor of the Exchequer will, it is hoped, see his way to remove the remainder of the duty, which, it should be borne in mind, is levied on the raw bean, which loses about 20 per cent. in roasting and preparing for consumption. But, as the writer of this paper has endeavoured to show on a former occasion, an alteration in the existing law, regulating the sale of chicory, is what is urgently required. At present permission is given to retail-grocers to sell packets to the public, labelled coffee and chicory, and this procedure practically extends official sanction to the adulteration of the former, to the loss of all concerned, save the dishonest trader. What is urgently called for is for retail-grocers to be compelled to sell coffee and chicory separately, and mix them, under the eye of the customer, if so desired.

There are two descriptions of coffee introduced from Ceylon, of marked difference in respect to aroma, etc., one bearing the designation of *plantation* coffee, and which is carefully cultivated, the other that of *native*, of which, from being imperfectly cultivated, the berries being picked before arriving at maturity, and otherwise roughly treated, the flavour is far inferior to that of plantation coffee.

In these days of co-operative associations, a limited company for supplying consumers in the United Kingdom with pure coffee, direct from Ceylon, would be a useful undertaking; and as arrangements could, doubtless, be made with the growers direct for a supply of plantation coffee of the best quality, and as there would

be no financial intervention between the growers of the coffee and the company, coffee might be sold to the public at prices less than what are demanded at the present time for very inferior qualities, and yet leave a fair profit to the importers.

If a guaranteed genuine coffee were thus introduced, it might reasonably be expected that the consumption of Ceylon coffee would be augmented, and thereby prove beneficial to the island grower, and, doubtless, every legitimate support might be expected at the hands of that important and energetic body—the planters of Ceylon.

As it is well known, few articles are more adulterated than coffee. Dr. Hassall says that even ox and horse livers, burnt bones, roasted peas and chicory, etc., are mixed with it.

Coffee owes its exhilarating and active properties to the presence of the principle termed caffeine, to a volatile oil, and to tannin, an astringent substance (chicory does not contain any of these constituents). When coffee is roasted, burnt sugar, crusts of bread, brick-dust, sago, starch, and other cellular and fibrous substances are mixed with it. Chicory is adulterated with Hambro' powder, roasted and "ground peas, etc., and coloured with vermilion red. French medical men state that the adulterated coffee is sold by the retailers in the poorer quarters of Paris, and that, wherever gastric fever existed in these localities, they could trace the sale of this most deleterious mixture.

There is much truth in a paper bearing on the subject in a late number of "Blackwood." The writer states as follows:—"If the mechanic knew what an exhilarating thing a cup of good coffee—not of coffee and water—is, it might prove a formidable rival to the dram; but he may pass through life without tasting the genuine thing, unless he be committed to a well-regulated convict prison, where the articles, supplied by contract, are examined by a skilful officer."

Coffee is much improved by age. An esteemed acquaintance, who was a part proprietor of one of the most magnificent properties in Ceylon, used to keep his coffee in bins in a dry room in his house in London, and was wont to give his friends, at his hospitable board, a great treat in the shape of a most delicious cup of coffee that had been kept some eight or ten years. Coffee should be slowly roasted, and not too much, and should become, after that process, somewhat of a golden colour. The berry should pass, as soon as possible, from the roasting pan to the mill, and thence, in a liberal quantity, to the coffee pot. The delicate aroma is thus preserved. It has been stated, and I think with truth, that the great

secret, after the coffee is made, is not to *decant* it, for when hot coffee is emptied from the vessel in which it has been made, into say a handsome coffee-urn, the delicious aromatic vapour is lost; the cream and milk should be poured into the cups before the coffee.

Dried leaves, prepared by a baking process, are said to be very good, and that for some time after they have been baked they retain the active principle of coffee, but as the crop of berries would be seriously affected by the abstraction of the leaves from the trees, it is hardly likely that this new process will be largely adopted.

It does not appear necessary in this paper to enter into any lengthened details in regard to the cultivation of this valuable tree, suffice to say, that when the land has been prepared, by felling and clearing away the jungle, it is then lined off into rows of from five to six feet square, the distance depending upon the character of the soil, climate, etc. Pegs are introduced at each square, and plants, or old cut down, but otherwise healthy, coffee stumps are put into the holes, which are made where each peg has been deposited, the holes being from sixteen to eighteen inches deep. The earth is then pressed gently round the plant or stump, leaving about seven inches of it bare above the surface of the earth; all suckers, save one, in the case of the planted stumps, are removed, or they would otherwise impoverish the tree.

When the tree arrives at about four to five-and-half feet high—the height depends upon the elevation of the estate, and above all upon whether it be in a sheltered position or the reverse\*—the tree undergoes the process of topping. Lateral branches then shoot out, on which the berries are ultimately formed.

In the third year a small crop appears, and nothing can be more beautiful than an estate which has been kept free from weeds, from the commencement, in full bloom. It presents to the eye a perfect sea of lovely jessamine-like blossom, which emits a slight and agreeable odour. Removing the pulp from the berry, and drying the berries in the sun, are the concluding phases prior to its shipment.

It is stated that the total export of coffee from the island in the year 1837 was 30,000 cwts., valued at less than 100,000*l*. In 1870, the export was over 1,000,000 cwts., equivalent to fully 3½ millions of pounds sterling in the consuming markets. Within the past

---

\* In exposed situations the tree is topped at four feet in height; where the estate is sheltered, from five to five-and-half feet.

15 years even the number of coffee plantations in Ceylon has increased from 404 to 1,004; the extent of land planted, from 80,000 acres to 200,000, or over 312 square miles; and the crops from 350,000 to 850,000 cwts. This is exclusive of coffee cultivated by the natives in their gardens, supposed to cover 50,000 acres more, which brings the out-turn up to the million cwts. *Native* coffee is the kind usually exported from Ceylon to France, America, and the Australian colonies, and it is prepared for the market after a different fashion from the plantation kinds, which are dearer. Briefly, the *Ceylon Observer* makes out that there are now 1,000 working coffee plantations in Ceylon, managed by 850 managers and assistants (700 of whom are Europeans, the rest being Euro-Asiatics and natives), requiring 200,000 coolies (men, women, and children from Southern India) to cultivate and gather the crops; and worth, for the 312 miles of cultivation, together with the buildings, machinery, and stock, not less than 7,000,000*l.* To this must be added half a million more for 300,000 acres of uncultivated land still in the hands of the coffee estate proprietors, one-third of which, it is calculated, is fit for coffee planting, and these are worth 4*l.* per acre (a low estimate at the present time, November, 1873); and 350,000*l.* more on account of the native gardens. The total value of cultivated and uncultivated property in the hands of coffee planters—Europeans and natives—in Ceylon will, then, be over 8,000,000*l.* Still further, there are 32 coffee curing and preparing establishments in Colombo, with steam power to the extent of 600 horses, and employing 20,000 men, women, and children during the busy season; and a rough calculation gives the value of capital sunk in these mills at another million sterling. The *Observer* sees no reason why, in the year 1880, 400 square miles of coffee cultivation should not send into the markets of the world produce to the value of 4,000,000*l.* annually, from the mountain regions of Ceylon. The great advantages possessed by the colony are the cheap and plentiful supply of labour, a regular rainfall, taking it for the whole country, and facilities of transport by railways and excellent mountain roads, into the different coffee growing districts.

E. RAWDON POWER, F.R.G.S.

---

**POISONOUS MUSHROOMS.**—A correspondent suggests that an infusion of green tea would be a ready antidote in cases of poisoning by mushrooms, as it contains tannin, and is to be found in nearly every house either in a pure or mixed state.

## THE "CRITERION."

LONDON, the mighty metropolis not only of England but of the world, is relieved of a reproach by the astounding enterprise of a single firm. This city in reality possessed no restaurant worthy of the name—certainly none to compare with the Café de Foy or the Maison-Dorée of Paris, or with similar public establishments in the other leading cities of Europe. New York has long since placed London in the shade, for certainly until Messrs. Spiers and Pond erected their sumptuous temple of gastronomy in Piccadilly it could boast of no edifice devoted to the culinary art like unto "Delmonico's," in the Fifth Avenue. The "Criterion" has risen from the ruins of an old block of buildings, as if touched by the magic wand of the enchanter. The spirited proprietors aimed at accomplishing a great work. Regardless of expense, they determined upon bestowing a lasting boon upon the metropolis. Their idea is no longer intangible; it has become a *fait accompli*. And now it remains for the West End public, and the strangers who constantly flock to our great emporium, to manifest approval by a generous appreciative patronage of the responsible undertaking into which the estimable Australian caterers have launched.

Originally fifteen architects were invited to submit designs for the proposed construction, thus showing the anxiety of Messrs. Spiers and Pond that a restaurant should be erected worthy of the name no less than of the most important city in the world. A premium of one hundred and fifty guineas was offered for the best designs, and smaller sums for those of lesser merit. The plans of Mr. Thomas Verity, of Northumberland Street, Strand, having been accepted under scientific advice, an edifice now greets the eye, so elegant in its proportions, beauteous in its ornamentation, clever in its devices, commodious in its arrangements, that one may study the work for hours without growing weary. The façade itself is worthy of particular attention, being in the style of the French Renaissance. The most noble and highly decorative departments of the "Criterion" comprise the Vestibule, the Luncheon Buffet, the Dining Saloons, the "Grill Room," the Cigar Divan, the Ball Room, and a bijou theatre—a perfect gem of beauty.

The decorations are not simply new, but novel and ingenious. For instance, in lieu of fresco paintings, so generally in use for the purpose of embellishment, hand-painted glazed tiles have been adopted. These produce a cheerful and even a brilliant effect; besides possessing the singular merit of being literally

indestructible. The side entrances, likewise, are elaborately and richly decorated with figure subjects in high relief. Various pieces of sculpture, those emblematic of the "Seasons" among the rest, are placed in conspicuous situations throughout the stately building. A portion of the sculpture, notably that in the spandrels of the Grand Hall, has been modelled and carved by Mr. E. W. Wyon. Surmounting the whole edifice is a Mansard roof, surrounded by a solid railing, so that in fine weather visitors to the restaurant may safely enjoy an agreeable promenade commanding a splendid and extensive view, possibly the finest to be had in London. The general arrangements thus far promise to be faultless. Owing to the building being arranged in blocks, the service is not merely simply economised but facilitated, a consideration of no slight moment, for there will be crusty diners who will brook no unnecessary delay when once they give their orders. While the kitchens, serving rooms, etc., are directly over each other, and situated in the centre of the building, beneath the dining saloons the retiring apartments embrace a separate block, with the exception of the ladies' dressing room, where every facility is afforded for convenience and privacy, and every essential requisite provided. But it is with the kitchens and their auxiliary offices that we have most to do. The former are pronounced by competent authorities the most complete ever fitted, the task of furnishing having been entrusted to Messrs. Benham and Sons. Some idea may be formed of the extensiveness of these kitchens from the fact that the roasting ranges are 12 feet wide. The steam hot tables measure 18 feet in length by 4½ feet in width. These extend around two sides of the kitchens. In addition there are immense copper steamers and fittings for cooking meat, fish, and vegetables of all kinds, so that the fancies or fastidiousness of the most delicate or whimsical palate may be met. The screens of wrought-iron enclosing the roasting-ranges are of novel construction, while they are utilised to serve as side hot closets. Perhaps the most signal novelty of all is the patent smoke-jack, the vertical fan of which does not work in the flues, but in a receptacle facing them; thus dispensing with considerable trouble, and obviating repeated annoyance. The several fittings in the larder, vegetable kitchens, and sculleries also form objects of special interest. On the lower basement is the engine and boiler room (arranged under the direction of Mr. W. W. Phipson, C.E.), containing two Cornish boilers, and a vertical steam generator. In this department is generated all the necessary steam for cooking and heating purposes.

It may now be announced that, thanks to Messrs. Spiers and  
ad, the denizens of the West End who do not belong to

clubs, have at length a palatial restaurant where they may repair whenever they list. Here they can lunch, enjoy a simple *potage*, *dinè à la carte*, or merely muse over a cup of coffee and a cigar in the sumptuous smoking *salon*. While guests may feed with Apicius or Lucullus, if they feel so disposed, they can also merely satisfy the simple wants of nature. Without imitating the example of the *gourmand* or else starving with Epicurus, they can administer amply enough to moderate requirements. In a word, they can delight their eyes while appeasing their stomachs; dine æsthetically instead of merely "feeding," as some folks are wont; and at a rate so far from being exorbitant as to suit the narrowest purses; surely nothing further can be desired. Messrs. Spiers and Pond have just done for London what Beauvilliers did for Paris a century since. Henceforth their names will rank, and be gratefully handed down to posterity, with such famous *restaurateurs* as Méot, Robert, Rose, Legacque, Véry, Henneveau, and Baleine. A good dinner in the French capital has the reputation of being a cosmopolitan wonder; so, I apprehend, is a *recherché* dinner at the "Criterion." Does not every nation of the earth already give us either a gastronomic idea or a more solid edible? Then what is to prevent the popular purveyors of the Piccadilly establishment from affording their regular patrons and occasional visitors delicacies from France, sauer-kraut from Germany, wild boar from the Black Forest, an olla-podrida from Spain, garbanços from Malaga, hams *au poivre de Xerica*, macaroni and parmesan from Italy, sausages and polenta from Bologne, smoked eels and caviar from Russia, dried herrings and anisette from Holland, karisk and wine of Schiraz from Asia, Cape wine from Africa, ananas and pumpkins from America, canvas-back duck from Canada, and choice fruits from China. Eating is an essential part of human obligation, as the eminent *gastronome*, Brillat-Savarin, naively observes in his "Physiologie du Goût":—"It rules the whole life of man: the first cries of the new-born babe are for its infant's food, while a man on his death-bed swallows still with some pleasure the last portion which, alas! he has not the power to digest." People, therefore, should bring reason and taste to bear upon an exercise which occupies a considerable portion of their lives, and influences their health and character. If we must deplore the excesses of Vitellius, that forms no valid motive for rejecting the pleasures of the table. Such cannot now fairly be characterised as luxurious, as was unquestionably the case with the ancient Athenians and Romans. The love of a good dinner at the present day implies intellect, taste, and judgment in those who manifest the same.



## ON THE CULTIVATION OF SEAKALE.

---

THE valuable plant called Seakale (*Crambe maritima*) possesses properties which should ensure its more general use as a vegetable, and it seems a pity that greater attention is not paid to its cultivation. It is very wholesome, and easily digestible, being peculiarly well adapted for weak stomachs, and is very similar to asparagus and broccoli. It grows wild in many parts of Europe, and was only a few years ago introduced as an article of diet; its cultivation is carried on on a very limited scale, though in some parts of Scotland it is in common use and held in high estimation. The plant grows to a height of about two feet, producing fleshy leaves, which the poor people living on some parts of the coast have long been in the habit of cutting off as they appear, and boiling like greens.

No plant is so easily forced, which can be done either by planting it in a hot-bed or surrounding it with litter in the open garden. It prefers a light sandy soil, and grows naturally near sandy sea-shores; in such ground, with a rich subsoil, it flourishes well. The roots should be selected about the end of February, and planted at a depth of about 10 or 12 inches, those plants being selected which have the most fully developed roots. The beds in which they are grown should be somewhat higher than the surrounding level, so that the deep roots may be preserved from excessive moisture. The shoots should be cut at the end of March or April, when they are about 4 inches long. In this way the vegetable is always tender when eaten. To blanch the kale the shoots should be covered with flower pots or forcing glasses, to prevent the access of light to the plant; it is well even to cover the young shoots as they appear above ground lightly with earth, taken from between the rows of plants.

To rear the plant from seed, the sowing should take place, if in the open garden, in February or March, or even a little later. The seeds should be placed at a depth of about  $2\frac{1}{2}$  inches, 5 or 6 in a hole; October is the best time for sowing in a hot-bed, when it is best to plant the seed in pots. It is two years before the plants are sufficiently advanced to yield a crop.

As soon as the flower appears every covering should be removed, and the plant left untouched. Frost has no effect on the seakale, and a bed properly planted will last ten years or more, yielding a large crop of wholesome food at a very slight cost.

C.E. F.

## COOKERY PAPERS.

## PART IV.—RÔTIS.

I have now arrived at that stage of the dinner when appetite requires exciting to further gustatory delights; therefore, whatever follows the *pièce de résistance* must be of an enticing nature, and possessed of an engaging flavour.

To prolong the pleasures of the table after the appetite is satisfied can be the only reason urged for the introduction of the rôtis *after* the joints, or removes, as the substantial course used to be termed, are disposed of.

In some instances, where circumstances would allow, it has been the custom to introduce, with success, game or anything else which is usually served as a rôti, at the same time as, or instead of, the joints; and under certain conditions this practice is acceptable. A little soup, fish, entrée, grouse, and ice pudding, make up the grand total of a perfect dinner. There is nothing in the nature of a partridge or any other game bird which should prevent it from forming the *pièce de résistance*, excepting the expense. But then an ordinarily constituted man, if hungry, could consume a dozen snipes or a dozen or two quails; and many a man would make short work of a brace of pheasants to his own share. Hence it is, I think, that the practice exists of introducing these birds at a period when the gastronomic organs are more nice than eager, so that one looks upon them rather as *bonnes bouchées*, or titbits, which are to be indulged in sparingly; and, therefore, we produce them at that time when the epicurean propensities rule rather than appetite. But, *chacun à son goût*, let those who can afford it make the rôtis the *pièce de résistance*; who shall deny the unimpeachable excellence of a dinner composed of turtle, rougets, ortolans, and ice; but on the other hand, julienne, a trout, a saddle of mutton, woodcocks, and some sweets, iced or not, is surely a dinner *pari passu*. In the one case the rôti forms the *pièce de résistance*, in the other it is appended as an accessory. There are many dishes of surpassing excellence which may, with advantage, when game is not in season, do duty in lieu of birds, and which, by their introduction at this period of the dinner, will greatly add to its *recherché*

character; as, for instance, plovers' eggs, a dressed crab, a lobster salad, a *pâté de foie gras*, *croûte aux champignons*, truffles, or a mayonnaise, or some kind of choice vegetable nicely dressed. A couple of chickens with watercresses are a good roast. Brillat-Savarin tells us that ladies especially appreciate this course, and Mr. Walker, author of "The Original," agrees with Brillat-Savarin in saying that any dish which may be entitled to rank as an *épreuve* may be served instead of *rôti*s. By an *épreuve* is understood, "A dish of such undoubted excellence that its bare appearance is sufficient, or ought to be sufficient, to excite in a human being properly organised, all the faculties of taste."

In France, all kinds of small birds are served as *rôti*s—nothing comes amiss. The *bec-figues*, or *becca-ficas*, which figure in the cartes of foreign restaurants, are an excellent *rôti*; they are none other than the robin-redbreasts.\* We may at once dispossess the mind of the cruelty attached to the production of this dish, for it is surely retributive justice, since so pugnacious are these little birds that naturalists tell us that the young ones will even fight with their own parents to the death. The Rocher de Cancale, in Paris, was, previous to the Revolution of 1848 (when it ceased to exist), noted for the excellence of its frogs and robin-redbreasts. The rouge-gorge is a very succulent and delicious little bird, possessing a delicate bitter flavour, which is much appreciated. At Metz, and in Lorraine and Alsace, there was at one time a considerable trade done by supplying these delicate little birds to the epicures of France. They are also delicious *en salmis*. The canvas-back ducks of America are another justly celebrated bird, worthy of a high position as a *rôti*. We are told by an accomplished *gourmet* that the scientific way of eating small birds is to "take them by the beak and scrunch them, bones and all." But this surely would be a difficult matter in some cases, as many small birds have very short beaks—robin-redbreasts and larks, for instance. By the way, larks are an excellent *rôti*. Dunstable larks at one time possessed a world-wide celebrity. Ruffs and reeves, too, are very nice little birds, but they should be fattened on hemp-seed, and bread and milk, or boiled wheat, for a fortnight previous to their execution. They should be eaten, so a little book on Gastronomy says, in August and September; but unfortunately they can only be procured in our markets during the spring months, when they are caught, or more frequently shot, in considerable numbers in Holland, and sent to our markets; some few are still to be met with

---

\* Small birds of all kinds frequently do duty as *bec-figues*.

on the coasts of Lincolnshire and Norfolk, and in the fen districts. Wheatears also are a delicate and delicious little bird, but seldom seen on the table, though they are abundant in the autumn months in almost every district, and especially in the neighbourhood of our coasts. The hecatomb of small birds which must be slain to satisfy an active man with a fierce appetite, is sufficiently appalling to furnish just and sufficient reason, I think, for prefacing the rôtis with a substantial joint, or else it certainly were a cruel stroke of policy to introduce these delicacies at a period when the sense of hunger is not available to enhance their relish, and when the consumer, being powerless to resist the temptation, is inveigled into overtasking his capacities, and disturbing the serenity of his gastronomic equilibrium. As Mr. Walker says, "Delicacies are scarcely ever brought until they are quite superfluous, which is unsatisfactory if they are not eaten and pernicious if they are." As an illustration, however, of the provision which must be made to satisfy the appetites of some people, I may mention that a late lord lieutenant of one of the western counties is said frequently to have consumed a covey of partridges for his breakfast. History does not relate the number of the covey, which would have been more satisfactory. Still, it is not only country gentlemen who possess sturdy appetites, for some years ago, when the principal part of the dinner was placed on table all at once (a barbarous practice, I think, which a superior civilisation has superseded), a young deacon, who had visited his bishop for examination for priest's orders, was asked by his spiritual chief to dine with him afterwards. It chanced that directly opposite the ingenuous youth, who was withal a bashful young man, a dish of wheatears was placed, to which he assiduously confined his attention, until one of the company, in alarm, attracted notice to the fact (for they were only waiting for the proper time to discuss the rôtis). But alas! it was too late; the demolition of the birds was already completely accomplished. It is said that the misguided young man obtained no preferment in that diocese.

Pheasants, of all game birds especially, require to be well hung before they are cooked; the red-legged partridges, unless they are very juvenile, are fit only for soup; and old grouse should never be served as rôtis; they make, however, a passable *salmis*. Snipes and woodcocks should not be kept too long; corn-crakes, wheatears, ruffs and reeves, ortolans, becca-ficas and quail, and all other little birds can hardly be too fresh. The plover will bear keeping a short time, but should not be allowed to become too high, and wild duck, widgeon, teal, and other wild fowl, also require similar

treatment. A Guinea fowl, which is in best season from February to April, and is only eatable if young, is almost as good as a pheasant, if well hung, and properly roasted with a slice of bacon on the breast. Herons, peacocks, black game, American grouse, and caper cailzie, godwits, redshanks, and knotts are occasionally introduced as rôtis, as also are ducklings and green geese when they first come into season. A dish of truffles, or tomatoes, or green peas in the early part of the year, form an agreeable adjunct to this course. Woodcocks, snipes, and most of the small birds should not be too much roasted; it has been said that the woodcock should be allowed just to fly through a hot kitchen, and be served immediately afterwards. Wild fowl also are more generally preferred rather underdone, but pheasants and grouse, and all good-sized birds should, I think, be well cooked; in fact, the error in cooking these larger birds which cooks too generally fall into, is, I think, not to roast them sufficiently. By some palates, however, the almost raw bird is esteemed the perfection of cookery. In the Dauphiné, says Brillat-Savarin, the sportsman who shoots a corn-crake, plucks it, rubs it inside with salt and pepper, and carries it inside his cap, ready for consumption whenever hunger or inclination suggests repose and a meal. Some barbarous nations are said to cut a steak from the animal they shoot, and place it beneath the saddle on the horse's back, whilst they take a few minutes gallop, and deem their repast then thoroughly cooked; but food consumed in this state cannot surely be appreciated by the highly developed palate of a civilised epicure, and I would urge all cooks to avoid the error of not allowing the rôtis a sufficient time to roast.

In France a large trade is carried on in truffled game; a pheasant stuffed with truffles is excellent; it is said to be best to stuff the bird soon after it is killed, and allow it to hang with the truffle stuffing inside it till in fit condition for cooking: for by this means the flesh is more thoroughly endued with the delicious aromatic flavour of the truffle. The art of producing a perfect truffled bird is confined to France, and even there to certain individual establishments whose reputation is of world-wide notoriety. Larks stuffed with oysters are excellent, as also are turkeys stuffed with chestnuts; and a pheasant stuffed with snipe is a dish whose epicurean excellence is unparalleled. Some one, I forget who, has suggested as the *ne plus ultra* of gastronomic beatitude, a turkey stuffed with woodcocks, which in their turn have been stuffed with snipe, the snipe being stuffed with truffles. A thin slice of bacon tied over the breasts of all birds whilst roasting, greatly adds to their succulence; in fact, all birds should be so cooked when they are roasted, it

completely obviates any natural dryness which they may possess. Snipe, plovers, and woodcocks are never "drawn," but toast is placed beneath them to catch the droppings (trail) whilst they are roasting, as the trail is esteemed the greatest of delicacies. All other birds should be "drawn," I think, although I have seen it stated otherwise as regards the corn-crake, ruffs, and reeves. The red-shank and dottrel are delicious little birds; the dottrel is very scarce, however, but a few are to be procured in the spring time. I must not forget the ortolan, which is held in high estimation by gourmets, but it is so rare and expensive as to be beyond the reach of any one who has less than ten thousand a year. They can, however, be obtained from a few game dealers in the West End of London at certain seasons of the year, at a price ranging from 3s. to 5s. each.

The ortolan is an autumnal visitor to the British Isles, but the birds, which delight the eye of the epicure and charm the palate of the *gourmet*, are generally imported from Italy or the south of France, where they are fattened on millet-seed and kept in a dark room. The ortolan is found in Germany, the Netherlands, and other parts of Europe-also; it is a solitary bird, as also is the wheatear, and is never seen in flocks; they are caught in traps, from March to September, and are then poor and thin, but an unsparing diet of millet-seed renders them living lumps of fat. Their flesh is of such a delicate nature that they require to be killed scientifically, in order to prevent their being spoiled for table, and therefore they are sacrificed on the altar of epicurism by plunging the head into a glass of brandy. I ought to mention that quail should likewise be delicately killed by carefully cutting their throats. Ortolans should be wrapped in a vine-leaf, and then in paper smeared with oil, and broiled. The ortolan is very like the yellow-hammer as regards plumage. All game should be hung by the neck, not by the feet; hanging it thus for a few days, or longer if possible, in cold weather, tends to make it more tender and to improve its flavour.

The quail which are shot in this country are of little account as a *rôti*; they are not fat; the supply of these birds is derived from Egypt, Italy, the South of France, and the coast of Africa. They are caught in immense numbers during the spring and autumn months, when they migrate in enormous flocks, and, when taken, are kept in flat cages with soft tops, for so pugnacious are they that they would wage a war of extermination if allowed to raise their heads sufficiently high to enable them to peck at each other. The Chinese make use of these birds for a curious purpose, holding

them in their hands in cold weather as a means of acquiring warmth.

- The ancient Romans used to indulge their vicious propensities by fighting these birds one against the other, as some years ago game cocks were used among ourselves. An immense number of these little birds are consumed on the Continent, and the demand in our markets is yearly increasing; the supply, however, is quite equal to the demand, which is prodigious. They are sold at from 1s. to 2s. each, and are fed on hemp-seed, rapidly becoming fat. They should be roasted at a gentle fire, a slice of bacon and a vine-leaf being tied upon their breasts; bread sauce and gravy are the necessary accompaniments. A leveret is admissible as a rôti, but a hare is only fit for juggling.

A Cook.

---

**LIMING FRUIT TREES IN WINTER.**—It is a very common and wholesome practice to coat fruit trees and gooseberry bushes, etc., with lime-wash, using a brush or giving a dash from a syringe, with a view to remove moss and lichen, if coated with them, and also to keep down insects, and give tone to the bark. The objection to this wholesome practice was the spectral whiteness with which it replaced nature's colouring on the trees. This objection, it appears, needs no longer hold, for we have seen it stated in a contemporary that it has been found experimentally that equally beneficial results may be procured by using instead of the whitewash colourless lime-water, obtained by steeping hot lime and allowing the water to settle and become clear, in which state it may be poured off and used with excellent effect without affecting the natural appearance of the trees.

**LIVE CATTLE FROM SOUTH AMERICA.**—Can it be done at a profit? This is the question which first suggests itself to the commercial mind when one hears of a project to carry cattle alive from South America to supply the meat-consuming markets of this country. That the animals themselves can be brought across the Atlantic has already been demonstrated in a trial made some time ago, but we understand that the results were not of a profitable character. However, the project is not to be abandoned without another attempt, and it may stimulate hope in the hearts of those who groan under the heavy charges of the inexorable butcher to know that the Argentine Government has granted a seven years' privilege to Don Juan José Mendez for the exportation of live cattle to Europe from the boundless pampas of that Republic. We are informed, and hasten to communicate the fact to our readers, that the "Archimedes," described as "a splendid steamer built in England for the traffic," was expected to arrive shortly at Buenos Ayres for the purpose of receiving on board the first consignment of River Plate cows. We are, of course, too prudent to allow ourselves to be over-sanguine of the success of this adventure—in that case the disappointment of failure would be very hard to bear—but we certainly most earnestly desire an auspicious solution of so great a problem as that which Mr. Mendez has taken in hand.—*Brasil and River Plate Mail.*

OATMEAL.

---

WE propose to devote a short article to oatmeal and its uses. Perhaps this may be the more suitable as the present price of bread-stuffs is so very high, that many who cannot easily afford to purchase wheaten bread in the quantity and of the quality which they have been accustomed to use, may be glad to hear of a substitute, at once good and comparatively cheap, by which it may be partially replaced. To a very great number of the people of England the value of oatmeal is little known; although the prejudice against it, long entertained, as an article of food rather fit for the lower animals than for human beings, has of late, in some measure, given place to a more just opinion, especially amongst the educated classes, who are capable of appreciating the value of the favourable verdict of chemists and physiologists. It is now well known that no other kind of grain is so nutritious as oats; and the facility with which it is grown on soils not rich enough, and in situations not warm enough for wheat, recommends it very strongly as fitted to yield a very considerable part of our food supply. Oatmeal is a principal article of food of the peasantry of Scotland, and until nearly the end of last century amongst those of the North of England. It is on record that about the middle of last century a wheaten loaf could with difficulty be procured in Carlisle, the ordinary bread of all classes—except, perhaps, the very highest—being oat-cakes, there called *haver-cakes*, from a name of oats still in use in the German language, and evidently connected with the Latin *avena*. In more ancient times, oats formed the principal corn crop of most parts of England; but as agriculture improved, and the cultivation of wheat was extended, wheaten bread was naturally preferred by those who could afford it, the use of oatmeal became more and more limited to the poorer classes, and on this very account was as much as possible avoided by those who, in respect of wealth, birth, or profession, made pretensions of superiority. Another circumstance which greatly tended to restrict the use of oatmeal where it was formerly general, was the convenience with which wheaten bread could be procured from the baker's shop, a matter of especial importance when almost all the members of a family were employed



in manufactories. The revived popularity of oat-cake has recently led to the exposure of different kinds of it for sale in bakers' and other shops, particularly in Scotland.

The grain of oats, intended for human food, is generally prepared by being ground into meal; although it is also used in the form of *groats*, that is, of grain denuded of its husk, and merely broken into fragments. Oatmeal is of two kinds, both common in all shops in which it is sold, *fine* meal, and *coarse* or *round* meal. For various purposes, some prefer the one and some the other. There is no difference in quality, but merely in the degree in which the grain has been tritured in the mill.

Oatmeal is principally used in two ways, for the making of *porridge*, and of oat-cakes. Porridge is a principal article of food of the Scottish peasantry, generally accompanied with milk, when milk can be obtained, although when milk is scarce, butter is sometimes used, sometimes sugar, and sometimes treacle beer. For most people in a sound condition of health, there is no more wholesome article of food than porridge and milk; none that contains a larger proportion both of flesh-forming and heat-producing substances; whilst to almost all who have ever been accustomed to its use, it is extremely palatable. Generally speaking, there is no better article of food for the nursery, none more likely to maintain a healthy condition of the stomach, or to give vigour to the frame, although there are exceptional cases, both amongst the young and amongst adults, in which the use of porridge is unsuitable, producing painful distension of the stomach, and indigestion. Whilst the caprices of children ought not to be heeded in such a matter, the actual conditions of their constitution ought to be carefully observed and regarded. Porridge is in general made by simply boiling oatmeal in water, stirring all the while to prevent singeing, and to secure the thorough mixture of the meal and water into a homogeneous mass without *knots*. The quality of porridge very much depends on the amount of boiling which it receives. It cannot be too thoroughly boiled. Imperfectly boiled oatmeal porridge is a very coarse article of food; and, unfortunately, much of the porridge used by the poorer classes in Scotland and elsewhere is of this character, and the porridge prepared for the nursery is often no better, through the carelessness of servants who wish to get through their work with as little trouble as possible. It is not nearly so digestible, and, therefore, not so nutritious, as porridge really well made. A common mistake in the making of porridge must also here be noticed as tending much to the deterioration of its quality, the adding of meal by degrees whilst the boiling goes-

on, until the proper thickness is acquired ; the result being that part of the meal is imperfectly boiled. The cook ought to know the proper proportions of meal and water—knowledge not very difficult to acquire—and mix them at once, so that all the meal may be equally well boiled. But it is to be observed that the water must be boiling before the meal is put in, which is not to be introduced in a mass, but as it were strained through the fingers handful by handful, as quickly as possible.

Whey is sometimes used, instead of water, for the making of oatmeal porridge, and affords a very agreeable variety to those in the habit of using porridge every day. Milk porridge is another variety esteemed as an especial luxury by the Scottish peasantry, and is certainly both a very agreeable and a very nutritious article of food.

Whether *fine* oatmeal or *coarse* oatmeal should be used for the making of porridge is merely a matter of taste.

The most hastily prepared and imperfectly boiled porridge is very superior to *brose*, yet *brose* is a form in which oatmeal has long been very generally used, at least in Scotland, and is still used by many of the agricultural labourers. It is made by merely pouring boiling water upon oatmeal and stirring it about. The result is a coarse pasty mass, with numerous knots imbedded in it, of oatmeal almost raw : a very coarse kind of food on which, however, with the addition of milk, many farm-labourers mainly subsist, often using it as their only article of diet three times a day.\*

It seems to have been the custom in Scotland, in former times, although the custom has long passed away, to boil *kale* (the coarsest kind of colewort) with oatmeal, or in some way to mix these ingredients, so as to make what was called *kale brose*. There is an old Scotch song, called "The Kail-Brose of Old Scotland," of which the refrain is,—

"And O the kail-brose of Old Scotland,  
And O the old Scottish kail-brose,"

in which are extolled the virtues of kail-brose and the vigour and exploits of the warriors who were nourished by that food. The combination of kale or greens with oatmeal seems not a bad one ; it is somewhat like the Irish *col cannon* ; but we cannot speak of it from experience, never having seen kail-brose, nor have we ever seen the oatmeal porridge made with admixture of leeks, which is said to have been, in past times, a favourite dish in Wales. The

---

\* See article on the "Diet of the Peasantry of Scotland," in *Food Journal*, September, 1871.

word porridge is, indeed, supposed to be derived from the Latin *porrum*, a leek. The mixture of oatmeal and leeks may probably be a very wholesome and not unpalatable dish. The two articles seem not by any means uncongenial.

It is hardly necessary here to allude to *Athol brose*, so called from the district of Athol in Perthshire, which gives a title to a ducal family. Athol brose is a mixture of oatmeal, honey, and whiskey, the last-named ingredient in no small quantity. It is said to be good for colds and sore throats, but is probably rather esteemed for its stimulating qualities, although, in days when it was more in use than it is now, no excuse was thought necessary for taking whiskey pure and simple.

Oatmeal is made into bread, by being merely mixed with water, kneaded, and *rolled* out—by a wooden roller—into thin cakes, which are baked on an iron plate (*Scotticé*, a *girdle*), suspended over a fire. Sometimes oat-cakes are made with hot water and sometimes with cold water, but those made with hot water are tougher than those made with cold water, which, if otherwise well made, are preferable. Much, however, depends on the kneading, and the question, “Is she a good baker?”—meaning, a good baker of oat-cakes—used to be a common one before the engagement of a domestic servant in some parts of Scotland.

Oat-cake can hardly be made too thin; the thinnest oat-cake is almost certainly the best. Oat-cake soon loses its agreeable character by imbibing water from the atmosphere; but if placed before the fire till dried, and cooled, it becomes almost as good as when newly made. With butter, or with cheese, it is a most agreeable article of food.

Oat-cake is sometimes made with the addition of a little butter, suet, or lard to the meal, and in that form is very pleasant, but very different from ordinary oat-cake, being soft and crumbling, instead of being hard and firm. It is not unfrequently made by ordinary bakers, and sold in their shops.

In some parts of Scotland, *bannocks* are used instead of oat-cake; but they bear to it about the same relation that brose does to oatmeal porridge. They are made of oatmeal and water, and are half an inch thick or thereabouts. The meal, at least that in the centre of the bannock, is almost raw. There can be no doubt that ploughmen eat them with good appetite, but there can be as little doubt that they consist of matter ill-prepared for the stomach, and which it ought not to be called upon to encounter.

J. MONTGOMERY.

## ONE MEAL A DAY.

---

It is no uncommon thing in many families, especially among the operative classes, to partake of five, and even six set meals per day.\* Among the families of tradesmen, of farmers, and the great majority of the middle classes, four meals a day—sometimes five—is the general thing, while very much to the same effect will be found the practice obtaining among the aristocracy and the families of professional men. Among the very thrifty, among the very poor, among the more cultivated and intelligent of all classes, among those who have set themselves, from medical direction or from their own study of matters physiological and dietetic, to adopt practices which they believe to conduce to health and longevity, we shall find the generally adopted rule of three meals a day. In the United States, at some Health Institutes, and by those who follow the lead of the Hygeist school of medical reformers, who flourish especially in that land of plenty and crotchets, where men (and women, too) are supposed to have freedom to think as they list, and, within certain limits, liberty to act as they choose, we shall find in successful adoption the further limit of two meals a day. But I know of no nation in the civilised world of to-day; I know of no tribe or people now existing on the border-land between civilised, primitive, and barbaric states of being; I know of no sect or school of religious, social, or medical reformers who have yet deliberately preached the ultimate rule of so-called reform in diet to be one meal a day, or who proclaim by their teaching that digestion and health, longevity and the general welfare of mankind, would be furthered by the adoption of such a practice.

In the face of these facts, it must be to the readers of the *Food Journal* a matter of both curiosity and interest for me to state the

---

\* I have a case of this kind in my mind at the present time. Before going out to work a first breakfast is hastily taken, shortly before 6 a.m.; a second, or true breakfast, at 8 or 8.30; dinner at 12.30 or 1; tea (called drinking, or bagging), sent into the mill, and partaken of during work at about 4 o'clock; tea proper at about 6.30; and supper before going to bed. Not much better is the practice of some of the wealthier and presumably better educated classes, who daily find time to partake of breakfast, lunch, dinner, tea, and supper—the latter meal being taken somewhere about midnight! The results are similar in both cases—appetite invariably poor, families generally ailing, mortality high.

position taken by one distinguished English writer in defence of this very remarkable practice; common enough, perhaps, in ancient times, but contrasting strangely indeed with the usages and teachings of modern days. Yet this position is definitely taken, is valiantly fortified and defended, is backed by the most assured *data* of personal experiment, by that distinguished politician and traveller, that forcible writer and acute observer, Mr. David Urquhart. And it can only be instructive for me to give, as briefly as I can, and as often as possible in his own words, the facts and arguments which he advances in support of his novel proposition, along with a few other references, which will be welcomed by our readers, to other aspects of the food question. I make the following quotations, therefore, from a work which will well repay any student who cares to look further into it,\* and which I shall place, with as little comment as I can, at your readers' service.

Referring to the benefit of the *direct* action of light, air, and heat upon the human body, Mr. Urquhart says in a note at p. 69:—

"Until the end of the Republic, the population of Italy worked naked in the fields in summer. In winter they wore one coarse garment. This we know, because of Cato's habit of working with his slaves. *Up to this time, also, they had but one meal a day.*"

Speaking of the relief afforded by the bath in cases of dyspepsia, Mr. Urquhart says:—

"Assimilation takes place more rapidly and more completely. Thus, less food sufficing, there will be less digesting to get through. There is also less detritus from the body, and therefore less waste to be made good. Whilst the patient is exposed to a high heat there is a reduced demand for animal heat, for the production of which so much of our food is required. I am satisfied that the constant use of the bath diminishes by one-third the amount of food required. *My servants have given up one of their three meals a day.*"

In discussing a most important but frequently overlooked consideration in the treatment of dyspepsia—the *temperature of the diseased stomach*—Mr. Urquhart insists upon the necessity for keeping that organ at a healthy temperature, if a healthy state is meant to be re-established and not a diseased one maintained. And herein he complains that—

"By stimulants, by the super-imposed heat of the surrounding viscera, and above all by the unnatural excitement of reiterated meals—that dreadful maxim, 'Eat little, and often'—you maintain a decomposing heat. Often a single shock of cold water on the external body will brace it for a day. Why not brace the afflicted stomach in like manner? Combine, then, the two processes: call the blood to the surface by external heat; then supply internal cold; but do not use the relief thus afforded to be expended on medicine, on stimulants, and on that

---

\* Sir John Fife's "Manual of the Turkish Bath" (mostly compiled from the writings of Mr. Urquhart, and published by Churchill and Sons, London, 1865).

iteration of meals which is the primary cause of all dyspepsia. . . . . Yet what avail the means I offer you [by the bath] of alleviating this disorder, if you only use the margin to fill it out? You have produced it first by indulgence, and then by theory. England originally had but two meals, and did not dabble in eating or drinking in the intervals. The old verse runs :—

‘Up at five, dine at nine,  
Sup at five, bed at nine.’

Having indulged themselves without reserve, they then convert their practice into maxim; and no longer the weak man says to himself, but the physician says to the patient, ‘You must eat little, and often.’ ”

In a note extending over pp. 141-150, on “Dyspepsia treated by one meal a day,” Mr. Urquhart relates an experience of a very remarkable kind. The malady—which was aggravated, painful, and distressing—was at length overcome. In a letter to a medical friend detailing his recovery, he refers to this experience as “establishing the proposition in respect to the treatment of dyspepsia, that the way to ruin a human stomach is to eat “little and often;” and he further on concludes that—

“Dyspepsia is the production of ‘little and often.’ In other words, where ‘much and seldom’ prevails, dyspepsia is unknown. But of course patients are impatient. They will swallow anything, but abstain from nothing.”

On p. 146, he re-enunciates his proposition in this strong form :—

“That all constitutional derangements (blood poisons) proceed from the stomach, and that the disturbance of the stomach proceeds from indulgence—not in regard to the nature of the aliments, but in regard to the repetition of the meals.”

Then follows this very decisive testimony, the more valuable, as well as curious, from its having an experimental basis :—

“I have myself gone through all this. I have reduced myself to one meal a day in order to be able to go through with my work, which has for years prevented me taking an hour’s exercise or recreation, and so I have been able to work sixteen hours a day, and sometimes twenty, and also to pass from the one extreme of inaction and fatigue to the other. Before I fell into this practice, which arose out of my observing the Mussulman fast of the Rhamazan, I was tortured with the form of dyspepsia called heartburn. It disappeared under that practice. Returning to Europe and relaxing into the ordinary meals—I mean, two a day, with tea and coffee, or the like—all returned in an aggravated form. Cicero tells somewhat the same story of himself. Ackbar did the same, as mentioned by Abdul Fazel. Talleyrand also reduced himself to one meal a day. I hold that one meal in the twenty-four hours is the intention of nature, as made plain by the dimensions of the stomach and the *necessity of filling it to obtain perfect digestion*. I am, moreover, satisfied, on historical grounds, that a race exceeding two meals a day can no more be permanent than an empire that sends its phosphates down its rivers. The earlier legislators took care to prevent this waste. They did so by enjoining, not discussing . . . . . The Chinese and Japanese take individual measures for saving the matters requisite for the continuous fertility of the soil. The physical conditions of permanency must be :—First, the restoration to the soil of the elements of vegetation; secondly, the preservation of the stomach for the digestion of food. We have a specimen in the

Chinese as contrasted with the Romans in former times and the British to-day. They have seen the first rise, change from one meal to two, and then to three, and fall; and so will they the second."

Still on the same subject, Mr. Urquhart insists upon the duty of understanding "the origin of those ailments which afflict, in an extraordinary degree, that species which is the most perfectly constituted, and amongst whom there should be no malady save old age." He continues:—

"Digestion is a frightful operation, from its difficulty; repeat it not, then, oftener than is required. You must lose the capacity for taking food, or you must take more than is needed. Look, in the latter case, at the toil you impose on all the organs to get rid of it. It is not, then, the food that supports you; you have to support the food. I wish I could parade before you the array of persons that I myself have restored to health and comfort by persuading them to this abstinence . . . . . In ancient times, among Romans, Greeks, and Persians, the discipline of the young consisted in subjecting them to privations; they had to endure heat and cold, hunger and thirst. Now it is "warm clothing;" it is "plenty of food," and nothing is more dreaded than an "empty stomach." . . . . . My object has been, in the experiments I have made, not to go to the limit of depression, but to the limit of fortitude . . . . . You have before you a being brought up from infancy in another manner [Mr. Urquhart's little boy]. He will be proof against dyspepsia at one hundred years, but then he will be presently on one meal a day."

In a note at pp. 154-7, on "One Meal a Day—Milk Diet," Mr. Urquhart says:—

"No expositions on this subject have descended to us from antiquity, but indications are not wanting which confirm the existing records of ancient practice in the subsisting habits of races of unchangeable character. To me, it seems an impossibility that the earth should have ever been peopled, had man either required or indulged in three or even two meals a day. I hold, also, that the important historic periods of the human race have been the passage:—First, from the one meal to the two; second, from the two to the three; and third, from the three to a still greater number.

"The first epoch seems to extend downwards to that great disturbance of pre-existing things by general conquests, such as were carried on by the Macedonians and the Romans.

"The second epoch of the western world may include the period since the Roman conquest to our days. The continent of Europe knew no third meal to the close of the great wars. It is since then that the English breakfast has invaded the European races, though only, as yet, partially.

"The third epoch has commenced in England only within a couple of generations, but it has advanced among the English colonists of the New World, where, already, the most alarming symptoms of decay reveal themselves in the organs. The dentists, aurists, oculists, and druggists of the United States surpass, in proportion, those of England, as much as those of England do those of the Continent."

Of course such doctrines are not very likely to gain credence in luxurious age like the present, and Mr. Urquhart found few evers. In fact, he admits that even among physiologists and

medical men he has met "the most pertinacious and bitter scepticism." And when he has related what he had himself witnessed among primitive tribes, and among those who subsist exclusively upon milk, he has been constantly told that it is "impossible for a man to do his work on a single meal, or to subsist at all on a single meal consisting only of milk." He has therefore fortified himself with testimony on both these points, and he publishes two communications of other observers in support thereof. One correspondent, referring to the custom of the working men in Chili, recites the experience of a gentleman whom he had known in Valparaiso, and who had travelled in Mexico and the country about Buenos Ayres, where, he said, "the invariable custom amongst the travelling servants was, to take a cup of chocolate before starting, and one full meal on arriving at the end of the day's journey." Another told him that "the Copiapo miners, who are amongst the strongest in the world, and do very hard work, dine in the middle of the day on red beans;" but he adds that they do take a light supper; also that "the workmen of Uruguay take only one meal a day, which consists of beef and maize."

Mr. C. Poorshottum, his second witness, states:—

"There are Hindoo hermits, or penitents, who live in the depths of forests and mountains in almost every part of India from Cashmere and Nepaul to Cape Comorin. Their food is exclusively the milk of the cow, which they generally boil . . . . . There is a class of Brahmins, called Saravugee, who follow that custom of one meal a day."

The same gentleman also states that:—

"Many persons, from a religious motive, restrict themselves to one meal a day, and are, on that account, greatly esteemed."

These extracts tell their own tale, and I have neither space nor need for dilating on them. To most people to-day, these teachings of Mr. Urquhart would prove a quite unpalatable gospel, and one which this journal is very far from advocating. But in a serial whose special and primary function it is to deal with matters relating to food—its curiosities as well as its utilities—such a paper as this cannot be out of place; while at a time, as our wisest prophets tell us, when we are prone to err on the side of self-gratification, when luxury is becoming our great national sin, its appearance cannot be regarded as otherwise than timely.

R. BAILEY WALKER, F.S.S.

---

"**THE DIETETIC REFORMER.**"—Those who take an interest in food matters from the stand point of the Vegetarian Society, or who wish to see what can be said on the other side of the question, from the point of view of a reform in diet, would do well to possess themselves of this magazine, which is published in cheap form and well written.



## MARKETS OF THE MONTH.

---

BREAD is cheaper than when I wrote last month, and a quiet tone has prevailed latterly in the corn markets; sales have been effected with difficulty at present rates, and but for the steadiness of Continental markets, prices would show a further reduction. The circumstances affecting the corn trade are such as to make it probable that no further reduction is likely to take place; we have no reason to surmise that our own harvest will prove more plentiful than has been conjectured; the importations from abroad have not been larger than usual; from the South of Russia there is a great falling off, and there is also a strong demand in our markets for good qualities for exportation. We receive large supplies from Taganrog, but this year the shipments thence are considerably below the average; in 1871 we received from the commencement of the season to the end of September 1,675,071 qrs.; in 1872, 842,327 qrs., whilst this year we have only received 375,578 qrs.

In the Metropolitan Cattle Market on Monday, November 17, notwithstanding large supplies and slow demand, prices were steady; best Scots from 6s. 2d. to 6s. 4d. per 8 lbs., best downs and half-breds, 6s. 10d. to 7s. per 8 lbs.; for calves a fair demand at full prices; pigs steady. Out of 5,880 beasts, 2,340 were foreigners, and out of 17,650 sheep, 9,880 were foreigners. In the dead meat market trade was dull, and prices had a drooping tendency. There can, I think, be but little doubt that soon a slight improvement on the ruinous cost of a leg of mutton will take place; those of my readers who ask why, I would refer to the able article on the "Price of Meat," which appeared in the *Food Journal* of November.

The potato market shows signs of increasing firmness, really first class samples are scarce, and sell readily at 120s. to 140s. per ton. Prices, however, are kept down by large importations from abroad, causing a slow sale for second rate qualities. The imports into London last week were 906 tons and 8,068 bags from Dunkirk (a bag contains about two bushels), 36 bags from Bremen, 89 tons from Groningen, 1,971 bags from Terneuzen, 1,030 bags from Hamburg, 13 from Ordt, 20 from Ostend, 173 tons and 3,424 bags from Harlingen, 797 bags from Boulogne, 2,171 from Antwerp, 1,072 from Rotterdam, and 23 bags from Brussels. These consist chiefly of Regents, rocks, and kidneys, and are sold at prices

averaging about 4s. 3d. per bag for Regents, 4s. for rocks, 4s. 9d. for kidneys.

For sugar there is a better enquiry, higher prices are being asked, and the tendency of the market is upwards.

A slight reduction may be mentioned as having taken place in the wholesale coal market for first-class coals, but the public have not as yet received any benefit therefrom.

The herring fishery on the east coast appears to have been most successful this autumn; in one week 32,000,000 fish were landed at Yarmouth. The poor man's fish, the sprat, is now abundant at Billingsgate, and the market is well supplied with fish of all kinds, but prices rule higher for best sorts.

The poultry and game market is now full of all kinds of birds—pheasants, hares, grouse, and wildfowl may be noticed as being cheaper, whilst partridges and poultry of all kinds are dearer. Partridges are now selling for 2s. old birds, 2s. 9d. young birds. Prices are for turkeys, from 5s. 6d. to 15s.; geese, 5s. 6d. to 9s. 6d.; ducks, 2s. 6d. to 3s.; fowls, 2s. 3d. to 5s. 6d.; small fowls, 1s. 9d.; capons, 8s.; wild ducks, 2s. 6d.; wigeon, 1s. 4d.; teal, 1s. 3d.; golden plover, 1s. 3d.; green plover, 10d.; snipes, 1s. 3d.; woodcocks, 4s.; black game, 3s. to 3s. 6d.; grouse, 3s. to 3s. 6d.; capucailzie, 5s. 6d. to 7s. 6d.; pheasants, 3s. to 3s. 6d.; hares, 3s. to 4s. 6d.; rabbits, 1s. to 1s. 6d.; larks, 2s. per dozen.

Oranges (Faro) are now worth 25s. per chest; Palermo, 9s. 6d. box; Seville (China), 12s. 6d.; Messina lemons, 21s.; Malaga, from 30s. to 35s. per chest; oranges are selling at from 50s. to 65s. per 1,000; lemons, from 65s. to 100s. per 1,000; sea-kale is worth 27s. per dozen punnets; cauliflowers, from 2s. to 3s. per dozen; Brussels sprouts, 3s. 6d. to 4s. per sieve; celery, from 15s. to 21s. per dozen bundles; French truffles, 3s. per lb.; Oporto onions, from 11s. 6d. to 12s. 6d. per case; mushrooms, 15s. to 21s. per dozen punnets; dessert apples, 6s. to 9s. per molly; cooking, 4s. to 5s.; stewing pears, 8s. to 10s. per case; dessert pears, 7s. to 16s.; grapes (hot-house), black, 3s. to 6s.; white muscats, 6s. to 7s. per lb.; Almeira, from 23s. to 30s. per cask; hothouse pines, 8s. to 9s. per lb.; Apricot (halves) in tins have arrived, price 17s. per dozen tins.

Hams and bacon are at former prices; butter is dearer, as also are eggs; cheeses may be quoted as but little dearer than last year, barring Stiltons, which readily make from 1s. 2d. to 1s. 6d. per lb., according to quality. At this season of the year, dealers in tinned goods recommend purchasers to lay in their stock at present prices.

*November 20th, 1873.*

P. L. H.

### NOTES OF THE MONTH.

It used to be asserted that high prices in the meat market are always simultaneous with cheap rates for bread, and that the explanation of this is to be found in the fact that when work is plentiful, and wages consequently high, the quantity of animal food consumed by the labouring classes is greater than in times of scant employment, when by force of circumstances, farinaceous diet is the common lot of thousands of the labouring poor. Consequently the best time for the miller and the baker are those when amongst the chief bread consumers there exists the inability to provide other than farinaceous food except, perhaps, in insignificant quantities. On the other hand, with the grazier and the butcher high prices and large profits mean liberal wages and plenteous work. According to this theory the welfare and prosperity of the bulk of the nation are to be gauged by the prices they are called upon to pay for the two most important articles of consumption, bread and meat. But how are these to be determined when food, both carneous and farinaceous, is at rates which, if not positively exorbitant are certainly anything but moderate? If it be true that high prices of meat are attended by corresponding cheapness in the price of bread (determined by the respective quantities of each consumed), how are we to regard the present state of affairs when we are troubled with the former, but are not at all favoured with the latter?

---

ANALYSES made of beer-yeast and cobra poison are said to have proved these two substances to be exactly identical in chemical composition. Such an announcement will be a veritable god-send to the Anti-Bacchanals with whom it is a favourite device when bemoaning the follies of their benighted brethren to exhibit a bottle containing a disagreeable looking fluid declared by them to be fourpenny ale from which the spirit has been eliminated. The teetotallers who, like the law, take no notice of extreme trifles, will, probably, in their great joy, "overlook the fact that minute quantities of other elements may be present in the yeast and poison respectively, although they elude the grasp of the chemist," sufficient for them that the same respective quantities of carbon, nitrogen, oxygen, sulphur, and hydrogen are contained in beer-yeast as in the poison of the cobra! The trifling fact that the introduction of the former into the human body is never attended by the same results as the injection of the latter will not trouble them to inquire whether the presence of minute quantities of other elements, besides those mentioned above, may not furnish the

explanation of the harmless nature of the one, and the deadly effects of the other, observable as they are notwithstanding the apparent identity of the two substances.

---

SEVEN individuals who had eaten snails at dinner were, so says the *Montpellier Médical*, affected with sickness, diarrhoea, giddiness, fever, etc. No doubt could be entertained as to the cause of the poisoning. The seven persons had all eaten of the snails, whereas they had not all eaten of the other dishes served up at the dinner. The pan in which the snails had been cooked was in perfect condition, and had been freshly tinned. The poisoning, therefore, took place through the snails themselves. It is well known that they often feed on poisonous plants, such as belladonna, digitalis, and hemlock, and on the fields from which the snails which were eaten had been gathered, were found box-wood, euphorbia, and prickwood. It is on account of this that snails gathered to be eaten are generally submitted to a few days' previous fasting.

---

THERE are two ways of meeting a difficulty such as that arising out of the present condition of the coal market; the first, which may be termed the impracticable, consists in holding meetings, passing resolutions, and making suggestions; and the second, the practicable, which endeavours to find a substitute for the too expensive commodity in the shape of some other suitable and less costly substance. Thus we see that whilst some are proposing an export duty of 10s. per ton on coal, others are busy in forming companies, having in view the profitable working of the various English and Irish peat districts. The question of the utilisation of peat was noticed at length in a recent number of this journal and subsequently there appeared a long article concerning a newly formed peat company, describing its works and expressing confidence in the ultimate success of its undertaking. Since that time several other companies have appeared, so that before long we may fairly expect to see in full operation more substantial means of opposition to the designs of greedy coal owners and vendors than are likely to result from the sage deliberations of such bodies as the "Anti-Coal-Ring Association" unless the evil-doers, wise in their generation, should steal a march on the company projectors, and reduce the price of their combustibles, in which case the peat companies would, vulgarly speaking, be left out in the cold. In fact the question is whether present prices are attributable to high wages following upon strikes amongst the colliers, or arise out of combinations which, although contrary to the spirit, and

possibly the letter of the law, are incapable of suppression except through the agency of some well organised rivalry in other quarters. The peat companies will partly furnish this rivalry, and it only remains for the public to give them such support as will alike justify their creation and lead to the annihilation of the alleged coal-ring combinations.

---

PERHAPS one of the most important matters connected with food, in Ireland, is the beet-root sugar question, which is at present receiving more than ordinary attention. At an important meeting of the Chemico-Agricultural Society of Ulster, held recently in Belfast, Professor Hodges said, that for a good many years the production of sugar from the sugar-beet grown in Ireland had occupied his attention. It was at once expected that the manufacture of beet sugar was likely to be added to our national industries, and companies were formed, and glowing statements published, but, unfortunately, the attempts that were made had proved unremunerative. Some new trials were, he believed, about to be made, and he trusted that the results would be more successful. There was no reason why the manufacture, so far as he could ascertain, should not succeed in Ireland as well as in any part of Europe. The amount of sugar in the beet was found to depend more upon culture and the manures applied than upon geographical position, and he was persuaded that there was nothing in the soil or climate of Ireland which rendered the Irish beet unsuitable for the production of sugar. Some time ago, he had been requested by the Commissioners of National Education to make a number of analyses of specimens of the chief varieties of the sugar-beet grown upon the model farms in various parts of the kingdom, and the results of these analyses—the determination of the amount of sugar, which closely agreed with the results obtained by Rev. Professor Jellet, of Trinity College, Dublin, by means of his improved saccharometer—proved that Irish-grown beets were not inferior to those grown in the chief seats of the beet-sugar manufacture on the Continent. The weight of a crop of white Silesian beet, which is considered the best variety for the production of sugar, varies considerably in different countries. The usual produce per hectare in Austria is stated to be from 416 to 580 cwts., yielding from 3,080 to 4,331 lbs. of sugar; Prussia, from about 720 cwts., yielding 5,344 lbs. of sugar; France, 596 cwts., yielding 4,464 lbs. of sugar. The following analyses of Continental-grown beet will show the usual composition of the root. No. 1 was made by the late M. Payen, one of the most distinguished agricultural

chemists in France, and No. 2 by his old friend and fellow student, Professor Horsford, who was formerly professor of chemistry in Cambridge, Massachusetts, in conjunction with Mr. Krockner, of roots grown in the neighbourhood of Giessen, in Germany:—

No. 1. French.—No. 2. German.

		Roots.		Leaves.	
Water	.. .. .	83.5	..	90.8	.. 82.25
Sugar..	.. .. .	10.5	..	traces	.. 12.22
Allulose	.. .. .	0.8	..	1.8	..
Albumen and other nitro-					
genised matters	.. ..	1.5	..	2.4	.. 2.04
Fatty matters	.. .. .	0.1	..	0.6	..
Dehone, gum, acids, and saline					
matters	.. .. .	3.6	..	4.4	.. 0.89

The roots which Dr. Hodges received from the farms of the National Board were examined in the month of January, and weighed as follows:—

No. 1. Vilmorin's improved sugar-beet	.. .. .	23 ozs.
„ 2. Red top white Silesian	.. .. .	24½ „
„ 3. White Magdeburgh	.. .. .	21½ „
„ 4. Red white Silesian	.. .. .	18½ „
„ 5. Improved electoral	.. .. .	26 „
„ 6. Improved white imperial	.. .. .	21½ „

Dr. Hodges said he was not accountable for the correctness of the names given to the varieties. He merely copied the labels on the roots. The amount of moisture found in the specimens was as follows:—

No. 1. .. .. .	78.10 per cent.
„ 2. .. .. .	80.94 „
„ 3. .. .. .	79.50 „
„ 4. .. .. .	78.80 „
„ 5. .. .. .	80.20 „
„ 6. .. .. .	81.58 „

The six specimens of roots were carefully freed from any adhering earth, and sections made from the centre to the circumference, after being dried, were heated by alcohol to which a few drops of solution of caustic potash were added (Péligot and Pelouse's method) and the sugar determined. The nitrogen was estimated by Vanentrapp and Will's method, and the ash by a careful incineration of the roots in platinum dishes. The results obtained were as follows:—

	Water.		Sugar.		Nitrogen.		Albuminous Matters.		Ash.
No. 1. ..	78.1	..	12.19	..	0.316	..	1.95	..	0.770
„ 2. ..	80.9	..	12.33	..	0.252	..	1.60	..	0.808
„ 3. ..	79.5	..	12.19	..	0.343	..	2.19	..	0.995
„ 4. ..	78.8	..	12.22	..	0.249	..	1.59	..	0.670
„ 5. ..	80.2	..	10.03	..	0.366	..	2.33	..	1.205
„ 6. ..	81.5	..	8.91	..	0.243	..	1.55	..	0.825

Dr. Hodges remarked that these analyses, and also the examination of Irish-grown beet, which had been made in the Museum of Irish Industry by the president of Queen's College, Cork (Dr. Sullivan), and also analyses of Irish beet by Professor Voelcker, demonstrated that the crops grown in this country were of superior value for the production of sugar.

---

THE success of the School of Cookery in connection with the International Exhibition of the present year, is not to be measured by the fact that 60,000 persons paid for admission to the lectures delivered by Mr. Buckmaster. That a permanent School of Cookery should have been suggested by the temporary experiment at South Kensington, and at the present moment be in a fair way of successful establishment, is more gratifying than the attendance of a large number of persons to witness the practical illustrations of the gastronomic art, which possibly have furnished some of the chief features of interest in connection with the third of the series of International Exhibitions. The Exhibition of Foreign Wines, which in 1874 will occupy a position somewhat analogous to that held by the School of Cookery in the present year, is likely to meet with a large measure of support from growers, shippers, and importers (these classes only being eligible as exhibitors), amongst whom the arrangements by which the public will be enabled to taste and carry away samples of the various wines is sure to excite a lively spirit of rivalry. Nor can it be doubted that, with the general public, such a scheme will meet with much favour; in fact, it is more than probable that the "tasting" will be on a far more extensive scale than was the case in the School of Cookery, where, however, the privilege was fairly appreciated. Exhibitors will be allowed space in the vaults of the Royal Albert Hall, but must themselves defray all costs of fitting up, etc. All wines intended for exhibition and tasting are to be delivered at the Exhibition, or cellars of the Royal Albert Hall, on or before the 1st of March, 1874.

---

THE recent deputation of master bakers to the Shoreditch Vestry calls for some special notice, not only by reason of the boldness of the assertions made by its spokesman, but because of the denial given to its most important statements. In one instance (according to Mr. Butler, the spokesman of the deputation) a two-pound loaf containing one drachm of alum, was submitted to the district analyst with the customary fee of half-a-crown, when a certificate was returned declaring the sample "not adulterated." A portion

of the bread was then handed to Professor Gardner, at the Polytechnic Institution, who, in his certificate, endorsed the opinion previously arrived at by Dr. Stevenson. Upon this Mr. Butler wrote to the Professor expressing surprise that no adulteration had been detected, to which reply was made that unless a quantitative analysis were made (for which the fee was five guineas) it would be impossible to tell the quantity of alum in bread. For the half-guinea charge Professor Gardner said he had only made a qualitative analysis, and had certainly found traces of alum, but of so slight a character that he did not think it worth while to mention it in his report, lest it should be used as a reason for prosecution. As might be expected, the impression intended to be conveyed by these statements to the Vestry was that "the respectable bakers of this parish were anxious that the law should be put in force against dishonest tradesmen, but at the same time, if the certificates of public analysts could not be relied upon, the question would arise—Of what use were such officers?" The Vestry decided that a select committee should be appointed to investigate and report upon the question. These proceedings have evoked from Professor Gardner a spirited remonstrance against the statements of the deputation in the form of a letter to the *Times*, in which he states that the sample handed to him was not a loaf, but a small piece of bread, and that Mr. Butler, in answer to his inquiry upon the subject, was informed that the fees varied commonly from 10s. 6d. to 5l. 5s., the charge for a rigid quantitative analysis of bread being 2l. 2s. Mr. Butler, however, did not require this, but stated that the sample he produced had been certified as pure, and he merely wanted to ascertain if it were adulterated with alum without troubling about the exact quantity of the latter. Professor Gardner declares that the sample handed to him did not contain alum in any appreciable quantity, which was proved by very careful examination on his part and that of his assistant. It appears that a small piece of a loaf containing alum might be almost free from the adulterant. There can be little doubt that the scheme of submitting adulterated bread to analysis was suggested by the idea that by such means the credit of analysts generally might be impeached, and having regard to this, the statements of Mr. Butler, as the mouthpiece of the Shoreditch deputation, should be taken only *cum grano salis*. We shall look forward to the report of the committee with interest, but should mention, meanwhile, that the explanation tendered by Professor Gardner has elicited a counter statement from Mr. Butler, who possibly has contrived to catch the analysts napping.

---



A CORRESPONDENT of *The Garden* recently drew attention to the culinary value of the plant known as Good King Henry (*Chenopodium Bonus Henricus*), from which we make some extracts for the benefit of the readers of the *Food Journal* who are not acquainted with the esculent properties of the plant, and also for the purpose of supplementing it with some reference to other edible plants belonging to the same family, but which are equally neglected. The Good King Henry is also known as English mercury, and is in some districts a common weed. It has a thick fleshy root, like that of a dock; the lower leaves resemble those of spinach, are rather thick and fleshy, and of a dark green colour. It is extensively grown by the Lincolnshire farmers, almost every garden having its bed, which, if placed in a warm corner and well manured, yields an abundant supply of delicious vegetables a fortnight or three weeks before the asparagus comes in, and for some weeks afterwards. From a south border the plant can be cut from early in April to the end of June. When properly grown the young shoots should be almost as thick as the little finger, and in gathering it should be cut under the ground somewhat the same as asparagus. In preparing it for use, if the outer skin or bark has become tough, strip it off from the bottom upwards, and then wash and tie it in bunches like asparagus. It is best boiled in plenty of water, with a handful of salt added. When tender, strain and serve simply, or upon toast; some have melted butter with it, others eat it simply with the gravy of the meat. Mercury will grow anywhere, but for successful cultivation, it seems that the ground cannot be either too deep or too rich. It should be trenched two feet deep, in an abundance of rich manure, and planted as early in the spring as possible. As the plant is a perennial, it is necessary to get an abundant yield of shoots, and to get them as strong as possible. In planting, the rows should be 18 inches apart, and the plants 1 foot apart in each row. When the plants begin to be cut, it is recommended to drench the ground frequently with manure water, or sprinkle it with guano in showery weather. The plants must not be cut too severely until they are thoroughly established, say in the third year. The writer of the paragraph from which we have abstracted the above remarks, appears to refer only to the young tender shoots, but the leaves themselves were at one time much used in some parts of the country as a substitute for spinach, having a somewhat similar flavour when boiled; nor is this to be wondered at, when we bear in mind that the spinach is a close botanical ally, belonging to the same natural family. Another species of *Chenopodium*, *C. album*, called the wild goose-

foot, or wild orach, a very common weed on waste places, has been equally well spoken of as an esculent vegetable. "In some of the Hebrides," we are told, "it is commonly collected by the inhabitants, boiled, and eaten as a green vegetable." Besides this, again, there is the sea goosefoot (*C. maritimum*), a sea-side plant, which, when boiled, forms a wholesome vegetable. Another interesting esculent plant belonging to this family, is the garden orach, or mountain spinach (*Atriplex hortensis*), which is considered a garden escape, a native of Tartary, introduced in 1548. It is an annual, tall growing, hardy plant, and though little cultivated with us, it is grown to some extent in France, where its large leaves are used as spinach.

The most interesting member of the order is, perhaps, *Chenopodium Quinoa*, an annual plant, native of Peru, where it grows to a height of from four to six feet. It is cultivated in Chili and other parts of Western America for the sake of its seeds, which are largely used as an article of food. They are prepared in several ways, either by boiling in water, in a similar manner to rice, and seasoning with Chili pepper and other spices, or the seeds are roasted first and then boiled and seasoned, and in this form they are said to form a favourite dish amongst the ladies of Lima. These seeds are described as being very nutritious, but not very palatable to those unaccustomed to them. The miners who feed upon them are able to bear a considerable amount of fatigue. The order to which the plants here enumerated belong is essentially a useful one, including such well-known articles as spinach, beet, mangel-wurzel, etc.

---

## CORRESPONDENCE.

---

*To the Editor of the "Food Journal."*

SIR,—I am greatly obliged to Lieut. Low for having drawn my attention to an error which occurs in my recent article in your journal on "The Food of Man." The blunder is sufficiently transparent not to escape detection. The people of Arabia notably do *not* "take entirely to animal food," unlike the inhabitants of other latitudes. "Arabia" is simply a misprint for "Patagonia." Such an error as I have perpetrated will occasionally occur in spite of the utmost vigilance.

S. PHILLIPS DAY.

Hurdwick Place, Harrington Square.

## DOMESTIC RECIPES.

---

*The Editor desires to appeal to his readers, and especially to the ladies, for contributions of recipes for cheap, tasty, and serviceable dishes, both for poor households and those of the higher classes.*

---

### INGOLDSBY CHRISTMAS PUDDINGS.

Mix thoroughly 1 lb. of bread crumbs with 1 lb. of flour, 2 lbs. raisins, 2 lbs. currants, 2 lbs. suet, 1 lb. sugar,  $\frac{1}{2}$  lb. candied peel, one nutmeg,  $\frac{1}{2}$  oz. of mixed spice, and the grated rinds of two lemons. Mix the whole with 16 eggs, and add four glasses of brandy. Boil six hours.

---

### CARCAKES.

Carcakes are well known in almost all farmhouses in Scotland, and esteemed even as a delicacy. They are made of the milk of a newly-calved cow, which for some days has a greenish-yellow colour, and a peculiar and not very agreeable taste. With this milk oatmeal is mixed, and when the whole has been well stirred about, a large spoonful is poured upon an iron plate (*Scottic's*, a girdle), suspended over a fire and already well heated. It spreads out, and quickly dries into a round thin cake; and, if the iron plate is large enough, several of these cakes are made at once. The carcakes are not considered sufficiently done till their upper surface has acquired a brownish colour. The addition of sugar to the oatmeal and milk is considered an improvement.

---

### GROUND RICE PUDDING.

Quarter of a pound of ground rice boiled in a quart of new milk; when cold, put to it 7 eggs, leaving out half the whites; add a cup of brandy, sweeten to taste, and bake it.

---

### MY GRANDMOTHER'S RECIPES (*continued*).

#### TO PRESERVE FRUIT FOR TARTS.

Boil or bake your fruit till it cracks in a stone jar; then tie it down close with bladder; it will do for greens plums, damsons, etc.

---

*\*\* Every communication intended for insertion in the "Food Journal," should bear the name and address of the contributor; not necessarily for publication, but as a guarantee of good faith.*

# THE FOOD JOURNAL.

---

## THE INFLUENCE OF FOOD UPON OUR RURAL POPULATION.

---

THERE is one aspect of the movement amongst the agricultural labourers closely connected with the objects which the *Food Journal* has in view, and at the same time of considerable national interest. Seeing how steady is the flow of population towards our large towns, where the wear and tear of life is the greatest, and how important it is that the country should be the great reservoir of health from which our town strength is recruited, it is surely a point worthy of our most serious attention what kind of men and women are growing up there.

We need not enter, here, into the vexed question as to whether our race has degenerated or not, or discuss the relative statures of Abraham and a modern Life-guardsman : perhaps we are not so much inferior to our fathers who fought at Crécy and Agincourt, when the conditions of life are favourable, as some would have us believe; but those who take this view are very apt to overlook the fact that the cases in which the conditions of life are *not* favourable are alarmingly on the increase.

As we are most of us inclined to generalise from what passes under our own immediate observation, many persons may be disposed to think that so far from degenerating, our race is improving in physical power : they point to our sinewy cricketers and university oarsmen, our powerful athletes, our well-knit volunteers, and we are glad to admit that they are to a certain extent justified in so doing. As regards the upper, middle, and lower-middle classes, from whom these good types are almost entirely taken, there is no doubt that more temperate habits, the freer use of cold water for bathing purposes, and a general prevalence of common sense in matters affecting the health, have combined to give us a body of

strong, active, healthy young men ; but they belong to a special class. They do not hurl cricket balls innumerable yards on ten shillings a week.

But what of the masses ? If under-fed, ill-paid labourers are bringing up large families of weakly children—and whether it be a physiological law that nature seeks to compensate by greater number for lack of individual strength, or not, it is a melancholy fact that where the parent stock is the weakest, the offspring is generally the most numerous—it is not difficult to see what a fearful train of evils must result therefrom.

*Ætas parentum, pejor avis, tulit  
Hos nequiores, mox daturos  
Progeniem vitiosiore.*

These weaker children of weak parents crowd into the towns in the hope of finding an easier life. Their badly nourished bodies and feeble limbs tire with work that is carried on under the healthy conditions of abundance of fresh air ; how, then, shall they fight the harder battle of life in crowded courts and festering alleys where even the simplest, but most needful of "God's gifts to us all," pure air and abundance of clean water, are denied them ? Inhaling through the night the vitiated air of an overcrowded room in a narrow street, where the vivifying influence of sunlight hardly reaches, their sleep does not recoup the expended energy of the day ; they rise in the morning unrefreshed, almost as weary as when they lay down to rest. This cannot go on long ; the strain tells ; they are burning the candle of life at both ends, the weak limbs become weaker, they are less able to work, and therefore earn less wages to enable them to buy food enough to keep up their strength. And what is the result ? We know it, alas, only too well. A temporary but delusive stimulant is sought as a substitute for food, the tired horse is flogged to go a little faster for a time, but the laws of outraged nature are too strong, and the poor creatures fall an easy prey to the first epidemic that comes—we may almost say in mercy—to put an end to their miserable existence. Nor does the evil end with themselves. Just as the ripple caused by throwing a stone into the water extends in an ever-widening circle across the pool, so do these centres of weakness multiply, in geometrical ratio, as their children and children's children hand down the vitiated blood they have themselves inherited.

How important, then, is it that the towns which are thus prodigal of human life and energy should have their strength recruited by

the importation of fresh and vigorous blood from the country. But what of the country itself? The stream can hardly be purer than the spring which feeds it; what, then, let us ask are the conditions of life in the country parishes? 'No account need be taken of those who are drafted off by enlistment, by emigration, or by the higher wages that can be earned in towns by those who are intelligent enough to acquire a certain amount of skill. They have evils of their own to contend with, but they lie outside our present subject, as neither of these classes suffer from want of sufficient food. We have only to deal with the residuum left in the country parishes.

And here are found such varying conditions that we cannot group all together. The Northumbrian hind is a very different man to the Dorsetshire labourer; he gets double the pay and his work is worth it. In many of the Midland counties, too, the labourer is on the whole fairly paid and contented; even in Warwickshire, the home of the strike, it is doubtful whether Mr. Archibald Forbes did not employ his graphic pen in making rather too good a story, since he described as actually impossible that which we know is done by thousands every week of their lives. Still the fact remains that in a considerable portion of rural England men are bringing up families on ten and twelve shillings a week, and it is not until one begins to put figures on paper, and sees what supporting the lives of two grown-up persons and four or five young children on that sum really means, that one perceives the full bearing of the subject and its importance in a national point of view. How is it possible so to spread out ten shillings a week as to make so small a sum purchase a sufficiency of food to maintain the vigour of our race when rent, clothes, fuel, and all the other necessities of life have to be provided out of it? and if it is not, what can be the result but that which our recruiting and other statistics abundantly confirm, that we are deteriorating our race and shall surely pay the penalty of our shortsightedness in some form or other. It is in vain that we pass Public Health Bills, and appoint active and intelligent officers to see their provisions carried out, if we are neutralising their good effects in another direction. It is in vain that we cleanse our drains, purify our water, and improve our dwellings, if we are at the same time lowering the type of the men and women for whose benefit all this is done. These things are all good, all highly important, but they will be of no avail in counterbalancing a deficiency of food. It is want of good food that has to account for half the drunkenness and half the disease from which our poor suffer so severely. The well-fed man is better

able to resist temptation, as well as disease, than the half-fed one, whose irresolute will and bloodless frame go well together. Dr. Beddoe has pointed out very clearly in his interesting pamphlet on "The Stature and Bulk of Man in the British Isles," that although superiority of stature does not necessarily confer an advantage on the individual, even in the matter of physical vigour and hardihood, yet when the standard of physical development in a nation is lowered, we shall find a falling off in energy, moral vigour, and even in mental power also. Amongst the causes that are "really powerful" in affecting the development of the body, without conspicuously shortening the duration of life, he places "small wages yielding insufficient food."

The most elaborate statistics that I know of connected with the food of our purely rural population, are those contained in a very interesting paper read before the Highland and Agricultural Society of Scotland, some three or four years ago, by Mr. Robert Hutchison, of Carlowrie, and published in the Society's "Transactions" for 1871. Taking Liebig's broad generalisation of all food into the two great divisions of flesh-formers (nitrogen), and heat-producers (carbon), and adopting as a basis of calculation the figures of Dr. Edward Smith, who computes the average weekly requirements of nutritive elements in food consumed by an able-bodied labourer, as a bare sufficiency necessary to avert starvation, at 30,100 grains carbon, and 1,400 grains nitrogen, Mr. Hutchison has tabulated returns from each county in England, and from two or three in Wales, showing in detail the nutritive value of their food. The only defect in the returns is that they do not give a sufficient number of cases in each county to supply grounds for accurate deduction, but such returns are no doubt very difficult to get at. We must, therefore, be content with what we have, and use them fairly and with due caution. There are, however, a few broad facts which stand out very clearly:—(1) That over a considerable portion of the country the agricultural labourers are very fairly fed. This is chiefly the case in the Northern counties where oatmeal, which has a high nutritive value, enters largely into the dietary; (2) That the system of "allowances" or payments in kind is not objectionable when applied to articles of solid food, such as wheat, potatoes, etc.; a man gets better value for his money than if he were paid in cash and purchased the articles for himself, and the family share the food. The practice of reckoning so much beer or cider as part of the wages is, on the contrary, decidedly bad, since it compels the labourer to expend upon a food of very low dietetic value a considerable portion of the wages from which

his wife and children derive no benefit. It is given by the master under the impression that it enables the men to work better, a view which the labourers are only too ready to adopt. But that it is a miserable fallacy is strikingly shown by a passage in the "Life of John Grey, of Dilston." In the year 1852, Mr. Bailey Denton had the management of some extensive drainage works in Dorsetshire, where the money wages were then ranging from 7s. to 9s. a week. Being convinced that men could not give suitable work on such miserable pay, Mr. Denton got some Northumberland drainers down, guaranteeing them a minimum of 18s. a week. This set the Dorsetshire men's backs up, and when they knew what the north country men were getting, and saw the character of their work, they tried to do the same. "At first," says Mr. Denton—

"They drank more beer, thinking that by such means they could do more work. They soon saw their error, and it was both amusing and instructive at the same time to see how struck they were when they found that the northern men had for their dinners good meat and bread, while they were living on bread, tobacco, and miserable beer and cider. It was by very slow degrees that the Dorsetshire men realised the truth that the butcher's meat was more strengthening than bad beer. Eventually, by the example afforded them, the technical education given them by the Northumberland men, and by the effect of improved food, the despised Dorsetshire men were enabled to earn as much as their teachers."

An example of this kind is worth any amount of argument, not merely as a lecture on temperance, but as illustrating the point that I have more particularly in view, the influence of food upon the condition of the agricultural labourer. Let us take another illustration from an adjoining county which stands the lowest in Mr. Hutchison's table. Here is an extract from the two appendices to his pamphlet, the first of which gives the details of the labourer's family, income, food, and general health, whilst the second analyses that food and shows its chemical value as nutriment :—

"No. 40. PARISH OF HORNINGSHAM, WILTS.

"A. S. Family above 10 years, 1; below, 3. Takes meals at home. Rent, 2l. 10s. Weekly wages, 10s.; family, 3s. Keeps a pig.

"*Breakfast*, bread alone, or what is called 'broth' *i.e.*, wheaten bread cut up in a bowl, with a few sliced onions, a little salt added, and hot water poured over it; family the same, or sometimes weak tea. *Dinner*, bread and cheese, or bacon; in winter, potatoes and cabbage and dry bread. *Tea*, none; family, weak tea and bread. *Supper*, bread and weak tea; and in winter, potatoes and cabbage and bread, with cider or beer occasionally; family, none. Not robust, and in middling health.

"*Remarks.*—The men in this district and in the adjoining parishes having been long on low wages and poor diet are generally slow and broken-spirited at work, many not worth 8s. a week, owing, doubtless, to their low dietary. Head carters and shepherds in this district only receive 12s. per week; many here only get 9s. a week.



The analysis gives the labourer himself 875 grains of nitrogen and 33,746 grains of carbon, and the family (per computed adult) 1,271 grains of nitrogen and 36,172 grains of carbon. Now, bearing in mind that Dr. E. Smith's estimate requires 1,400 grains of nitrogen and 30,100 grains of carbon, as a bare sufficiency to avert starvation, what can be more miserable than such a condition as the above? Who can wonder that the amount of work which is got out of such a poor tool is not honestly worth more than 10s. a week? The employer would say, "I cannot give more for my work than it is fairly worth to me: let A. S. do more work and I will gladly pay him more wages." But where is the poor fellow to get the strength from? Potatoes, and cabbage, and dry bread for dinner, bread cut up in a bowl with hot water poured over it for breakfast, is not the kind of food to put much "heart" into a man. What wonder is it that he is "slow and broken-spirited at work?" At such wages the small amount of work that he can do is dear at the price: he dawdles through life a poor weak creature, and has his revenge, such as it is, by coming upon the rates ten or fifteen years before his time.

And if the labourer himself suffers from insufficient food, what must the wife and children do, especially in those important years when the family is coming fast, and none are old enough to add to the income? The bread-winner must of course have the lion's share, in order that he may keep at work without interruption from illness. Accordingly, we find many cases given in Mr. Hutchison's tables in which the man appears to be fairly fed, but where the share of the wife and children (reckoning the latter per computed adult) does not exceed from 700 to 900 grains of nitrogen, and from 21,000 to 26,000 grains of carbon. One cannot help thinking what a benefit the nutritious Australian meat would be to these ill-fed people, if they could but be persuaded to overcome their prejudice against anything that they are not accustomed to. The poor are very difficult to deal with in this respect, as every country clergyman knows. Ask a Southern labourer to eat oatmeal porridge for breakfast, he would tell you with some indignation that "he is not a pig;" though it would be a happy thing for his children if they were as well fed as a pig, so far as the meal and milk are concerned, and especially the latter, which is of such great value to the young, and the freer use of which is so beneficial in the northern counties.

GEORGE WALTERS.

## ITALIAN PRODUCE.

---

CENTRAL LONDON possesses a foreign quarter, filled with an Italian population. The habitual food and dietary of this people are so peculiar, and at the same time so excellent, that we feel certain our readers will take an interest in knowing, not how the Italians in London live, but on what quality and quantity of food they maintain their present healthy and strong condition. We shall not speak of the very poor organ-grinders, who are scarcely able to obtain any sort of food, and who are fed on the inferior descriptions of English broken victuals, but of those workmen who are able to pay for nutritious food.

Two or three shops exist where the Italians procure all they want, at prices a little dearer than in Italy, but far cheaper than at the misnamed Italian warehouses of England. Macaroni, in all its forms, is naturally the first characteristic of Italian produce. The variety of forms into which the hard red wheat is moulded to suit, not merely the internal taste, but also to please the eye of the consumer, can be hardly conceived. There are at least eight different forms into which macaroni is cut or moulded, excluding from this consideration all such abnormal products as *tagliarini*, *spaghetti*, *risotto*, *vermicelli*, and *pasta d'Italia*. Macaroni is always spoken of as the Scotsman alludes to his porridge, in the plural number, and is universally called "they." This practice is so common that it does not startle the English, who consume macaroni at Italian tables, to hear that the dish is considered large enough to be beyond a singular reference. There are so many ways of cooking macaroni that we shall not entrench upon the province of the culinarian by extolling the supremacy of *macaroni au gratin* over the hideous mixture which some Frenchmen, who had a spite towards "United" Italy, dubbed *macaroni à l'Italienne*. The Roman method is, in the opinion of many, the best. It enables every person to prepare his own food according to his own taste on his own plate. The plain boiled macaroni being prepared, a large lump of cold, fresh butter is melted on the previously heated plate, and judiciously incorporated with the farinaceous product. The mixture, which takes nearly a minute to perform, being effected, pepper and finely-grated Parmesan cheese are sprinkled over the dish, the quantity of cheese used being equal in amount to the original amount of macaroni on the plate. The *plat* becomes then wholesome and nutritious, and is, we conclude, the cleanest and most appetising form in which

this valuable and cheap familiar food can be taken. Macaroni is retailed at 4d. per lb., and it is physically impossible for an adult to devour more than half a pound at a sitting. It is certainly the cheapest form in which wheaten flour can be consumed by the poor man. That it is nutritious the healthy condition of the poor Italians is amply sufficient to demonstrate. The native rarely makes a sweet dish of his macaroni, and "they" always form the first dish at meals, on the same plan that the Norfolk dumpling is administered in England as a more or less digestible "stomach-stopper." Of the manifold other combinations into which macaroni enters among the Italians, we cannot now speak, except to draw the attention of our readers to the manner in which their vegetable soups, deficient in flesh-forming ingredients, are converted at small expense into nutritious diet, by the addition of a little grated cheese in each plate. The same chemical result would, of course, be produced were the cheese to be boiled in the soup, but the lumpy products would be disgusting to the delicate palate of every Italian. The English labourer, although he possesses an enormous capacity for eating his food—

"As if nutrition  
Depended on its deglutition,"

yet does not have that delicacy of palate which the native of Southern Europe has acquired during the long centuries that he has been accustomed to have the best and most nutritious articles of consumption at the lowest prices.

The aversion which the English lower classes have to macaroni appears almost insurmountable. Food which is good enough for the epicure of Calabria, where man "regards his belly as a God," probably more than in any other European country, is considered by the English labourer, and still more by his wife and children, who rule his mind, as cheap Italian offal. Centuries must pass before this acquired habit of distaste is got rid of, and before Englishmen will look around them in Europe, and watch the diet on which myriads of fellow human beings are able to support life in comfort, peace, and plenty.

The flesh diet of the Italians forms, as may be expected, a comparatively trifling item in the daily expenditure. Pieces of inferior meat are procured by them, and are converted into a soup which is not very disgusting, thickened as it is with *pasta d'Italia* cut into elegant forms at 1d. per pound. This soup is flavoured with an excellent esculent hardly known to the English, termed *funghi*. These are the stalks, excluding the *mycelia*, of a large fungus, probably of the genus *Boletus*, which are torn into strips, and dried.

Being retailed at 4d. per oz., half an ounce is sufficient for a large tureen of soup. We are not aware that English mushrooms are ever exposed to this desiccating process.

Of Italian butter we must now speak, an excellent compound which is sold in canvas parcels at a lower price than the best English butter, *i.e.*, retail at 1s. 6d. In flavour it is perfectly tasteless, there not being the slightest admixture of saline particles. It is wrapped in linen inside the canvas, and is devoid of all moisture, being firm and hard in the hottest summer.

The wine consumed by the Italians deserves some notice. It is a fiery product of the vineyards of Lombardy, perhaps nearly akin to the Sardinian Barbera in its flavour, and, like it, rasps heavily over the palate, with a sweet rough taste. It is not perfectly clear, and the corks are uniformly bad. The wine, nevertheless, is by no means to be despised, at the retail price of 8d. per bottle.

Tomatoes are imported in kegs, in which a moist black looking substance like the mixture termed "tamarinds," which children buy at the cheap shops, is squeezed down. Although the appearance is filthy in the highest degree, the taste in soups is far from unpleasant, and the price 1d. per ounce at which they are retailed, brings them within the reach of the poorest class of the community.

We are bound to speak of the oil, to which English people are adverse, as it is not sold in the straw-covered flasks manufactured in Essex, which have never seen either Florence or Lucca. It is imported in large earthenware jars, precisely similar in form to the ancient amphoræ, or to the large *cántaros* of La Mancha. These stand about four feet high, and are glazed inside. The outer surface is encased in a sort of basket work of broad bass-like straw. Of the quality of the oil, we shall not speak at length. Retailed in vessels of the consumer, the smallest quantity can be procured, and the superiority of this genuine oil over the vile English and French imitations is manifest.

Into the numerous forms of preserved fish and meats which are consumed by the Italians, we shall not enter, as those consumed in London are chiefly prepared at Marseilles. The pickled tunny which is there preserved, is nearly equal in taste to that of Italy, and can here be sold at a cheaper price.

The Italian nation are said to be the best cooks in the world. Certain it is that the Italian population in London fares extremely well, and is possessed of delicacies which, if properly cooked, would form indispensable adjuncts to the *cuisine* of English gastronomers.

## DOMESTIC HYGIENE.

### DRAINS (*concluded*).

---

IN a former article on this subject we confined our remarks to the drainage necessary for the protection of the walls of a house from damp arising from the soil. We now have to consider the somewhat more important question of those drains which communicate between the inside of the house and the outside sewers, and through which, if not properly constructed, the noxious sewer gases find their way, carrying with them an intolerable nuisance, accompanied too often with disease and even death. It will thus be seen that too much importance can hardly be attached to their proper construction.

Every moderate sized house may be said to have three different drain-pipes, attached respectively to the water-closet, the sink, and the bath. To each of these different circumstances are attached, and they may therefore best be separately considered; but before referring more especially to these a few words will be necessary as to the causes which lead, as a general rule, to the flow of sewer gases into houses, when the drain-pipes are so constructed as to admit of its finding its way in, and first of all as to the cause of the origin of sewer gas.

Main drains are constructed of brickwork, having generally an oval or egg-shaped section. Under ordinary circumstances, and particularly where there is an abundant water-supply, sewage does not remain in the sewers long enough for decomposition to set in in its passage from the closet to the outfall, provided the drains are clean and free from any decomposing organic matter. This, however, is not often the case; for, owing to the rough surface of the brickwork of the drains, much filthy matter adheres to the sides as the flow of the water begins to fall, and this being in a moist state and exposed to the action of the air, soon begins to decompose, and, mixing with fresh sewage, acts as a leaven, and soon generates the evolution of the foul gases of decomposing sewage throughout the sewer. Or the drains may be rendered foul in a similar manner if a fault occurs in the brickwork, or if, through the sewer being badly laid out and constructed, an indentation

from the straight line occurs in the bed of the sewer, in which the solid matters of the sewage settle, and in course of time decompose and emit their noxious vapours, contaminating the fresh sewage, and so giving rise to the evils generally known as "foul drains." Having thus briefly referred to the chief cause of the origin of sewer gases, let us now see how they find their way into the houses.

Sewers never run full, except under very special circumstances, such as a heavy storm of rain occurring where the surface drainage flows into the sewers; there is, therefore, always full space between the surface of the sewage and the top of the sewer for sewer gases to accumulate. These, of course, following the laws of levitation, flow upwards in an opposite direction to the flow of the sewage, and they can only escape through the gullies opening into the streets, or up the drains leading from adjoining houses, and so, where efficient provision has not been made to guard against it, into the houses themselves. Which course is adopted by the sewer gases depends very much upon atmospheric conditions. When the outside air is hot and still, and the inside of the house cool, the sewer gases will find it easier to ascend through the gullies than to force their way against the cooler, and therefore heavier, atmosphere of the house. In winter this is reversed, and not only so, but the fires kept up indoors are constantly sucking in air from every crevice; and where, owing to defective traps or cracks in drain-pipes, any communication exists between the drains and the inside of the house, the foul gases are as much drawn into the house to aid combustion as is fresh air through the several doors and windows.

Before passing on to a more particular consideration of the several house-drains above referred to, it may be observed that what are called sewer gases may also originate in defective traps, or where the flow of water is not sufficient to flush them clean out. In such cases there may remain a foul deposit at the bottom of the trap, which will in time decompose, and exhale gases which will naturally flow into the house and give rise to the supposition that the sewers or drains are foul, whereas the whole remedy of the evil is within easy reach, as it arises from causes within the very walls of the house itself. Before dismissing this part of our subject, a few words may not be inapplicable here on the subject of traps generally. It by no means follows that, *because* a drain is trapped, *therefore* sewer gases must be kept out. There are traps, it is true, which under ordinary circumstances are efficient, and properly discharge their allotted function of keeping out bad

smells; but even these are liable to derangement. In the first place, as has been already stated, if the flush of water be deficient, they may become half choked with solid matter, and thus lead to the very evil they were intended to guard against; or if the connecting pipe be too small and the flush of water full, the drain may run full, and thus, acting as a syphon, empty the trap, leaving it no more capable of resisting the passage of gas than an open pipe, which in fact it then becomes. A very palpable remedy for such a defect is to make the trap somewhat smaller in sectional area than the pipe into which it discharges itself, in which case it would be clearly impossible for the drain to run full. The remedy for the former evil is either the provision of a greater supply of water, or, where that is impossible, care should be taken that the trap is well flushed out at least once a day.

Besides the above defects in the action of traps, there are to be found traps of defective construction in which the water does not come up to the top of the bend, but leaves a free passage above, through which sewer gases or other noxious vapours can readily ascend. The only remedy we can suggest for these is that they be speedily changed for traps that are properly made.

The water-closet should, if possible, be situated in an annex to the house rather than within the main walls. There should be a ventilator in the window or upper part of the wall, through which fresh air would freely enter. The cover of the seat should be kept shut when not in use, and the handle of the plug should be so arranged that the lid could be shut before raising the plug. The water-supply for the closet should be obtained from a separate cistern, and not be drawn from the same cistern that supplies drinking water to the house. The trap of the water-closet is invariably placed immediately beneath the pan. This is decidedly wrong, as, in the event of the flush of water not being sufficient to clear it out, the putrescent matters are thus kept close to the opening, through which their evolved gases may most readily escape into the house; it should rather be placed at the other extremity of the soil-pipe, so that the soil may have a free fall, and be carried at once to some distance from the closet. The soil-pipe should be of metal, lead being preferable to iron, as its joints can be made more perfect. It should be carried within the walls of the building as a protection from the frost, and great care should be taken in making a proper joint of the pipe with the closet-pan. At the bottom of the metal pipe should be placed the trap, from which another lead pipe, of slightly larger sectional area than the trap, should lead to the drain. The drain is best made of glazed

earthenware pipe, and very great care should be taken in making the joint between the metal and earthenware pipes, as the two are differently influenced by changes of temperature, and their unequal contraction and expansion cause them too often to leak at the joints. For this reason the joint is best placed beneath the ground, where the changes of temperature are less felt. When this junction is made inside the walls of the house, it can rarely be kept perfectly tight, and by cracking it affords a ready means for the admission of sewer gases into the house.

The drain from the bath should be carried into the soil-pipe as high up as may be convenient, and a trap placed at its lower end, just at the junction of the two pipes. By this means the soil-trap will be sure of being well flushed, and cleared out every time the bath is used, if the ordinary water-supply to the closet be not sufficient for that purpose.

Matters sent down a scullery-sink are of an entirely different character to those flowing through the soil-pipe, and an entirely different method of treatment is required in this case. Grease, which largely abounds in scullery-sink water, is a very troublesome matter to deal with, and often chokes up an ordinary trap or bend in the pipe, which latter is here generally made to do duty for a regular trap. The water from green vegetables, also, has a peculiarly objectionable smell of its own, and for the sake of comfort its admission into the house should by all means be avoided. The most generally recommended arrangement for carrying away scullery-sink water is to make the pipe pass through the scullery wall, terminating a little above the ground, and to discharge its contents into an open drain, from which it is conducted by a pipe into the drain leading to the sewer. This, however, is from circumstances not always practicable, and an open drain possesses the disadvantage of requiring occasional cleansing; but it must be admitted that nothing connected with the drainage of a house should be left to depend upon proper attention, but, it should be entirely automatic. We cannot, therefore, advocate this open drain system for sink-pipes. These should always have bell traps at their tops, as is most usually the case with them; they should then be carried to the outside of the house, and discharge themselves into the rainwater-pipe from the roof, and so pass into the sewers; the open top of the rain-pipe affording means for the escape of any gases that might arise, instead of their being allowed to flow back into the house.

The junction of drains with sewers is universally effected in an entirely erroneous manner. The junction should be made at a



level with the bottom of the sewer, instead of high up in the side, or at the top of it, and the drain should enter with an easy curve so as to discharge its contents in the direction of the flow of the sewer. The reason for this is obvious, for then the mouth of the drain will, as a rule, be covered by the flow of sewage, and as the sewer gases, when they exist, rise to the top of the sewer, and above the surface of the sewage, they will not be able to enter dwelling houses through their drains, as they will be most effectually trapped, and their only means of escape will then be through the street gullies.

FRED. CHAS. DANVERS.

---

**THE ALGERIAN WHEAT TRADE.**—French advices state that orders for wheat have been received in Algeria from Marseilles, the North of France, Belgium, and Italy. These orders are so considerable that it is doubted whether it will be possible to fully satisfy them.

**THE UTILISATION OF MALT RESIDUES FROM BREWERIES.**—Dr. M. Liskey recommends that, after thorough leaching, the residues be submitted to hydraulic pressure, whereby an increased quantity of extract is obtained, and the solid portion rendered fit for transportation to points where cattle food is scarce.

**HOW TO PACK FRUITS** so that they may be conveyed in a green and fresh state through varying temperatures to remote countries, has long been a problem hitherto deemed scarcely solvable. Mr. John Carson, the president of the Horticultural Society of Victoria, has, however, succeeded in doing this, and henceforth there need be no difficulty in sending to the uttermost parts of the globe fresh apples, pears, and other fruits grown in Victoria. It was resolved to send some cases of freshly-picked apples to the International Exhibition at Vienna, and Mr. Carson undertook to pack them. They were carefully gathered so as to be free from bruises, and then each apple was wrapped up in clean unused tissue paper. An ordinary case then had a layer of dry cotton wool laid in it, and a layer of apples in paper was placed on the cotton. More cotton was put in between the apples and the side of the case, and between the apples themselves, and when well rammed down another layer of cotton succeeded, followed by fruit as before, and so on until the case was filled. The lid was then nailed on in the usual manner, and the packing was complete. The cotton wool served as a non-conductor of heat, and at the same time absorbed any moisture that might exude from the fruit. Mr. Kendall, the agent of the P. and O. Company arranged for the cases to be placed in the ice rooms of the steamers until landed on the Continent. The result of this combined care has been that the fruit, when unpacked and placed in the show cases at Vienna, was in a fine condition, and excited not only the admiration but the astonishment of the Viennese and other visitors.—*Planters' Gazette.*

## “THE BATH MINERAL WATER HOSPITAL.”

---

THE Bath General, or Mineral Water Hospital is the only institution of the kind in the kingdom. It was founded for the purpose of extending the benefit of the Bath waters to the suffering poor in all parts of Great Britain and Ireland. These waters have had a varied and changing reputation. Many years ago they were considered a remedy, more or less, for every ailment under the sun; hence for a time all classes flocked to Bath. Yet even during this period, the zenith of its fame, there were many who doubted the efficacy of the waters, and made humorous allusions to their supposed virtues. Cases of real and undoubted cure were attributed rather to the salubrity of the air, change of scene, cessation from usual occupations, care in diet, and medical regimen, while in the case of imaginary ailments, the diversions of the place were supposed to have caused that beneficial change in the invalid, which medical aid had failed to effect.

Years rolled on and proved that neither theory was correct. The Bath waters could not alleviate every disease, though at the same time they were allowed to possess many valuable properties, and to be the most appropriate remedy for certain diseases. It is, however, probable that were it not for the existence of the Mineral Water Hospital, the waters of Bath, like those of many other places which have enjoyed for a brief while a world-wide renown, would have been neglected. But persons from the humbler classes, not prone to exaggerate illness, or to leave their occupations without sufficient cause, have been sent to Bath from all parts of the kingdom, afflicted in various ways, indeed sometimes completely crippled, and after being subjected for a time to the treatment of the waters, have returned home cured or at least greatly improved in health. In proof of this I appeal with confidence to the records of the hospital, to its able and skilful physicians, to the thousands of cases which have come under treatment there, to the experience of those medical men who have sent their patients, to the numerous humble homes throughout the land whose loved ones, a burden to themselves and others, have returned home restored to that health on which the support of their lives depended. This experience has probably led the middle and upper classes of society to resort to Bath for the cure and alleviation of diseases to which they, alike with the poor, are subject.

The Hospital was established in 1742, so that for more than 100 years it has afforded relief to thousands of poor persons, who would not otherwise have been able to derive benefit from the use of medicinal waters.

Beau Nash, the king of fashion, had also feelings of a deeper and more practical kind, and was really anxious, not only to increase the fame of his city, but to render it a means of benefiting the suffering poor, for he was indefatigable in his exertions to raise money for the founding of a hospital having no other curative agencies than the waters; and using his popularity for so good a purpose, he soon succeeded in obtaining 2,000*l*. Mr. Allen contributed from his quarries the stone required for the building, and the architectural design was a free gift from Mr. Wood. Beau Nash's friend, Dr. Oliver (whom I mentioned in a former paper as the inventor of the Oliver biscuit), was the first physician appointed. Since then the Hospital has been one of the most flourishing institutions in our favoured land, and its funds have been increased by many legacies and gifts, so that from these and from the Charmy Down estate, which belongs to it, the establishment now possesses an annual income of 2,847*l*. But in consequence of the increase of patients it needs extra help, and 2,000*l*. of voluntary contributions are required to meet expenses. That the waters were a special benefaction from heaven was acknowledged by the ancients when they attributed the gift of them to Minerva, and Christians living in the light of Gospel truth, should surely not be slow to thank the Supreme Deity for the loving kindness manifested to their city in these healing springs. Every year collections for the hospital are made in all the churches of Bath, and very poor or strangely niggardly would be the person who would not show his gratitude by giving a small sum to so excellent a purpose.

I visited this interesting hospital at Christmas, when the day room and wards, which had been prettily decorated by the patients, showed to their best advantage. There are six wards for men, and four for women, as men seek admission in larger numbers, being more subject to gout and rheumatism. Last winter the number of men in the hospital was twice that of women. There is now comfortable accommodation for 88 men and 57 women. Every convenience which the art of man could devise for the relief of human suffering is ready for use. Chairs in which helpless patients can wheel themselves about, lifts in which they can be taken up stairs, machines for those who have lost the use of their legs, in which there is a kind of stirrup for exercising the invalid limb, the same kind with a pulley for those who have lost the use of their hands, etc.

The baths are well fitted up, and suited to different stages of illness. There is one specially intended for rheumatism, by which the water is poured over the joints of the fingers. The water is pumped into the baths by means of machinery which draws it from the Pump Room, but in case of this supply failing, there is a large reservoir at the top of the hospital full of water, which can be kept comparatively warm. The kitchen and laundry are heated with hot air. In one cupboard the clothes and towels for the bathers are kept warm and ready for use. The clothes are washed in the mineral water, which the women who manage this department told me, is quite as good for the purpose as ordinary warm water. The cooking is done by gas. The patients rise at six and proceed to the day room, which is heated with hot air and fires; they breakfast at eight, dine at one, and take tea at five o'clock. One patient is chosen to sit at the head of the breakfast table to cut and distribute the bread and butter. At nine they receive a visit from the house doctor, which is repeated at noon and in the evening; then baths are taken, after which the patients have to lie down in their beds wrapped in blankets for some minutes, then dress and return to the day room. The dietary scale is as follows:—1 lb. of bread, 1 oz. of butter, and 1 pint of tea, morning and evening; for dinner on Sundays and Thursdays, meat 8 ozs., potatoes  $\frac{1}{2}$  lb., beer 1 pint; Mondays and Fridays, broth 1 pint, rice pudding  $\frac{3}{4}$  lb.; Tuesdays and Saturdays, boiled meat 8 ozs., potatoes  $\frac{1}{2}$  lb., beer 1 pint; Wednesdays, soup 1 pint, potatoes  $\frac{3}{4}$  lb. The diet for women is the same, with the exception of their having 6 ozs. of meat instead of 8. The rules for nurses are also framed, one is that they are to rise at six and be in bed by half-past ten. Over each bed is written the name of the physician in attendance. The patients look cheerful and well-cared for, as if fully conscious of the benefits of which they are the recipients. No interest is required to gain admittance, as any person who can prove that the waters are applicable to his case, and that he is unable to afford them otherwise, has only to apply to the Registrar for a form on which a medical statement of his case must be made, and, if upon being submitted to the Medical Staff, it is considered suitable, the applicant is admitted as soon as a vacancy can be found for him. People of the higher classes, when in reduced circumstances, have been known to avail themselves of the superior treatment and excellent advice which this hospital affords.

**EXPERTA.**

## FOOD SUPPLY OF THE ANDAMAN ISLANDERS.

---

It has been customary among all geographers to describe the inhabitants of the Andaman Islands, which have attained so sad a notoriety by the assassination, on the shores of one of the group, of the lamented Lord Mayo—as negrilloes or dwarf negroes. In their works on geography and ethnology, the learned writers of Continental Europe, in their exhaustive Cyclopædias, and the more popular Conversations-Lexicons,\* have promulgated this theory, which has been repeated by English writers, but the true status of the Andaman Islander has been settled by Dr. Frederic J. Mouatt, of the medical staff of the Indian Army, in his interesting and exhaustive work on these islands, published in 1863, which epitomised the observations made by him in 1857 in conjunction with Dr. George Playfair, and Lieutenant Heathcote, of the Indian Navy, all three gentlemen of high scientific attainments and practical knowledge in the several departments committed to their special charge.

The Andamaners, or Mincopie, are certainly not negroes, nor do they bear any resemblance either facial or otherwise to them. Dr. Mouatt brought over and presented to the British Museum the bones of an adult male, the dimensions of parts of which indicated the height of the individual to be only about 4 feet 10 inches. Their colour is remarkably black and lustrous, but they are not woolly headed. Neither the skull nor the teeth have any of the features of the negro, such as the relative narrowness of the cranium, while the face does not present that projecting development of the lower part of the visage which is so distinguishing and repulsive a feature of the "full-blooded" African. The projecting heel also is absent, and the figure, though dwarfish, is well shaped and not devoid of the elegance of the European. They remove the hair from their heads, and anoint their bodies with red earth, while both sexes go naked.

The Professor describes the Andamaners as "a genuine aboriginal race," and as quite distinct from the negro or any other type.

Their chief weapons are bows and arrows, and some of the males carry a kind of spear. It is impossible to imagine any human beings to be lower in the scale of civilisation than are the Andaman savages. Entirely destitute of clothing, utterly ignorant

---

\* See Meyer's "Grosse Conversations Lexicon;" Bergham's "Conversations Lexicon," Leipzig edition, 1854; "Encyclopédie des Gens du Monde."

of agriculture, living in the most primitive and rudest forms of habitations, their only care seems to be the supply of their daily food.\* As climbers they are little inferior to monkeys, being accustomed from childhood to scale the lofty, straight, unbranched trees of the forest in quest of fruit and honey. What the gigantic girth and height of these trees are, may be gathered from a passage in Dr. Mouatt's book :—

"The unusual dimensions of the trees on every side continued to strike us with amazement, because it was not one here and another there that presented trunks of such ample dimensions, and branches shooting at such an altitude, but because such monsters of the vegetable world were general, and could be seen wherever the eye chose to direct its gaze. One was selected, very much at random, for measurement. One of our Burmese convicts—first-rate climbers, who can ascend the most gigantic trees like monkeys—was sent up to the top with a chain, and, its measurement being taken, it was found to be 76 feet in girth, its mighty stem, which looked like the mast of a great ship, being supported by the smaller trees around, which propped it up as buttresses."

Their canoes, which are fitted with outriggers similar to those in use by the Cingalese, are constructed with surprising neatness and skill.

The wants of the Andamaner are few and are easily supplied ; if he can satisfy the craving of his appetite he is satisfied, and makes no provision for the morrow. His chief diet is wild roots and fruit, which he picks up and eats where he finds them. He knows nothing of agriculture, and makes no attempt to cultivate the ground that it may receive seed and bring forth harvest in due time. The only point regarding their food supply in which they show an intelligence superior to the brutes that perish, is in fishing, and, however humble may be the intellectual development indicated by the exercise of this art, it does show a certain amount of contrivance and foresight. The greater portion of the knowledge we have of the Andamaner, "as he is at home," is derived from the statements of a Brahmin Sepoy, of the 14th Bengal Native Infantry, one of the transported mutineers, who, after escaping from the convict establishment in April, 1858, passed upwards of a year with a tribe of these savages. He deposed that they are excellent swimmers from their childhood, and wonderful divers, "fishing for shell-fish in deep water." "I have seen," says the Sepoy—

"Three or four of them dive into deep water and bring up in their arms a fish 6 or 7 feet in length, which they had seized. They could perceive canes

---

\* "Selections from the Records of the Government of India," No. 25, Andaman Islands. Preface, p. 6.

approaching long before they were visible to me, and could see fruits and honey-combs in the jungle which I could not. Their vision penetrates to great depths in the sea, where they could see and shoot fish with arrows, when the object aimed at was not apparent to me. They see well at night, catching fish in the pools left by the tide at that season."

Then the Andamaner has his hook, his net, or his harpoon—instruments in the use of which he is so expert from constant practice, that he knows how to make skilful and fortunate casts with them. The women and children are very expert in procuring and preparing shell-fish, separating them by means of a small kind of adze, tipped with a semi-circular blade of iron; with this instrument they also scoop out their canoes. The small Andamanese pig, the only animal, except the rat, to be found in these islands, appears to be peculiar to the group, though Dr. Edward Blyth, Curator of the Museum of the Asiatic Society, in a report on the zoology of the Andamans, states that the species is to be found in the Nicobar Islands, distant seventy-two miles to the south. There is also reason to believe that they are to be found in Sumatra, being probably the diminutive wild swine of that island noticed by Bingley in his "Animal Biography," the passage from that work being quoted in the *Journal of the Asiatic Society* for 1860, p. 104. These pigs are of a jet-black colour, with very thick and strong bristles, and small, black, tapering tails. Dr. Mouatt writes of them:—

"At the time of our visit we turned out a dozen of them, and our unwonted appearance filling them with alarm, they ran off from us with the velocity of an Indian express train, squeaking like mad. We set off and had a regular hunt after them; far more exciting it was than pig-sticking in Bengal. After discharging some of their rifles, several of the hunters would probably find the pigs between their legs, making them measure their length on the sand. The only cool head and hand in this absurd affair was Walker, the famous "filibuster," whose every shot brought to grief one of the squeaking fraternity. These Mincopie pigs, he declared to be about as difficult game as he had ever, in the whole course of his adventurous career, come in contact with."

The Andamaner spins ropes, makes wicker baskets, and nets of large size for catching turtle, and smaller ones for fishing. The harpoon is provided with a moveable head, a long elastic cord being attached to it, by which it may be held when fixed in the fish at which it has been hurled; the fishing arrows are made of smooth, hard wood. Their nets, which are constructed with much ingenuity and neatness, are made by "laying up" small whip-cord, which is manufactured from the rhœa fibre, which possesses the valuable quality of hardening in the water. The small hand nets are neat and elegant in appearance, and are appended to a basket which the women fasten round them, putting in it the results of

the day's search for food. The coarser nets are exceedingly strong, the cord of which the meshes are made being as thick as a man's middle finger. This net is made to close like a bag, and is used for catching turtle; heavy stones to keep it submerged are fastened at intervals of about two feet.

The water vessels of the Mincopie are formed of joints of the large bamboo, and some are capacious enough to contain several gallons of fresh water, which the women are compelled to carry during the peregrinations of their lords.

Captain Blair, of the Indian Navy, the original surveyor of these islands, and who, in 1789, fixed the first penal settlement at Mark Island, now known as Chatham Island, in his valuable report (which may be found in the Proceedings of the Governor-General's Council of the 31st May, 1793), gives an interesting description of one of the large caves which are to be found in some parts of these islands, inhabited by flocks of innumerable small swallows (*Collocalia esculenta*) which build the edible nests so much valued by the Chinese as a delicacy and restorative. "The principal cave," he writes,—

"Is situated at the south point of Strait Island (in Diligent Strait), which is rocky, but not exceeding 40 feet in height. The entrance, which is washed by the tide, is an irregular aperture, of about 6 feet wide, and the same height. On advancing 30 or 40 feet, the height diminishes to 4 feet, and the breadth increases to 20. Here it is rather dark, and very warm, and the top and sides of the cave are covered with nests; an astonishing number of birds twittering and on the wing, whisking past the ears and eyes. This, contrasting with the melancholy noise of the waves, resounding through the gloomy cavern, formed a very uncommon and interesting scene. The birds are, probably, induced to choose this situation from the caves being inaccessible either to snakes or quadrupeds, and probably defensible against birds of prey. The nests in general are in form the quarter of a sphere, of  $2\frac{1}{2}$  inches diameter; one of the sections being firmly fixed to the rock, the other section leaves the nest open above.

"The substance is glutinous; those most in estimation are white and semi-transparent. It has been doubted, and various conjectures have been formed, of what the nests are composed. In smaller and more accessible caves I have observed a mucilage exuding from the rock, moistened by exhalations from the sea, which washes the lower part of these caves. This mucilage, on being dried, had both the colour, texture, and taste of the nest; and what removed all my doubts of this being the substance, was seeing the birds in immense numbers resorting to a cave very productive of the mucilage in the month of January, which is the season in which the birds build their nests. It may now be presumed that they are neither of animal nor vegetable, but of a mineral, substance."

These edible nests, which are to be found in the caverns on the coasts of Borneo, Celebes, and other islands of the Eastern Archipelago, have been known to realise their weight in silver in the Chinese markets, where they are sold to form preparations of



soups; the newly-constructed nests are more valuable than those having eggs, while the nests in which broods of young birds have been hatched, from the admixture of feathers, command the lowest price.

It is the opinion of all who have had opportunities of judging, that the Andamaner is not a cannibal as has been generally believed. The whole population is migratory, moving about generally in small parties along the coast, as from the sea they draw their chief support, while hunting parties proceed into the interior to kill the wild pig and collect such fruits as the soil spontaneously yields.

The Mincopie shave all their hair from the head and body, the women performing the part of barbers with wonderful dexterity, their only razor being a chip of shell or glass. They have no medicines, a mixture of red earth and turtle oil forming the universal specific for every ailment; the surgical art is also no further advanced among them, and all flesh wounds are dressed with leaves, while scarification is resorted to in the case of bruises and swellings.

Their habitations are the most simple and inartistic that can be imagined. Four posts, two long and two short, and either crooked or straight, are fixed in the ground, and are then roofed with palm leaves, connected with some skill. *Voilà!* There is the home of the Mincopie. The houses are generally erected in a circle beneath some trees and near a spring or stream of water. Their method of maintaining their fires for cooking purposes is very remarkable, and displays an unusual amount of ingenuity. Dr. Mouatt writes:—

“The larger trees are charred in the interior about 6 feet from the ground, until, as they are very dry and gradually burn away, a great hollow is formed in the centre, in which they allow about 3 feet of ashes to accumulate, in such a way that, at the bottom of the heap, live fire is always found, which, with great judgment, is always so placed as to be against the wind and rain, so that there is no fear of its being extinguished by either of these causes. Over the fire in these strange ovens the Mincopie can grill his little pig, fry his fish, calipash and calipee his turtle steaks, and not improbably prepare his turtle soup. Great pains are taken in the preservation of these trees, which they never entirely destroy.”

The Andaman islands abound in reptiles, in centipedes, and scorpions, as well as mosquitoes and all the insect life of jungles; to protect himself against these latter the native covers himself with a thick coating of yellow earth, which, when dry, is impervious to the bite of his tormentors.

C. R. Low, late Lieut. I.N.

## MAGOG'S.

---

ASSUREDLY the City is maintaining its reputation in the Art of Living. Scarcely a week passes in which we have not to record some new enterprise in the great business of catering for the vast appetite of London; and yet, in order to see the details of such enterprises thoroughly adapted to the variety of public needs, we always find it desirable to wander within the sound of Bow Bells. The very latest achievement that we note is not only within the sound of the bells, but is, so to speak, under the very shadow of Bow Church—for it stands exactly opposite that well-known pile—at the corner of Honey Lane, and so in the full tumult of Cheapside. Some of our readers may remember a place once called “His Lordship’s Larder,” a name not particularly pertinent to anything either new or old. On the site of this building Mr. Alexander Gordon, of whose large representative restaurant in Milk Street we have already spoken, has opened an equally representative tavern and luncheon bar, disconnected by means of a partition and separate entrances. To this establishment he has given the very suggestive name “Magog’s,” and has made it thoroughly illustrative of civic mediæval art. The whole place is a gem of colour and ornamentation; and well it may be, for all its windows are of stained glass, designed and executed by Mr. Gibbs, the well-known ecclesiastical artist of Bedford Square, while the historical wall paintings, representing the opening and closing scenes of the wars of the Roses, are by eminent artists; and the quaint glazed tiles and superb mural decorations are all in keeping with the rest of the details. When lighted up at night the effect of the magnificent range of windows in Cheapside and Honey Lane is surprising, and the visitor, on entering, finds himself amidst a glow and gleam of colour that, were it less harmonious, would be almost bewildering. All we need say of the wines and the viands is that they are worthy of the place and of the well-recognised reputation of its proprietor. To those whose avocations make a standing luncheon necessary, “Magog’s” will become synonymous with luxury and despatch.

---

## ECONOMICAL POULTRY KEEPING.

---

POULTRY and eggs are very largely imported into this country. London receives great part of its supply of eggs from the north-west of France. There and in Pomerania the keeping of poultry is more extensively carried on than anywhere else in Europe, or, indeed, in the world. The peasantry look to it for a great part of their means of subsistence. In this country it is chiefly a resource of cottagers and of the poorer class of farmers, or rather of their wives, in the districts of least improved agriculture, where the farms are small. Farmers who pay rents of 100*l.* a year, or upwards, generally look upon it with something like contempt, although they do not object to their wives keeping a stock of poultry, from the profits of which they may buy a few things for themselves after the table has been duly supplied, for the farmer generally rather likes a fresh egg or two at breakfast, and has no objection to a pancake at dinner or to an occasional fowl or turkey. Few of them, however, have any notion that the keeping of poultry is a thing at all worthy of their attention, or that it could be made considerably to increase the annual produce of their farms. Where the farm is strictly agricultural, the farmer, who is generally one of the highest class, and pays a large rent, not only deems poultry altogether beneath his notice as a source of profit, but rather accounts them a nuisance, to be only tolerated when kept within very narrow bounds, because of the damage apt to be done to his crops. We are decidedly of opinion that in all this our farmers are quite in a mistake, and that by poultry keeping, judiciously carried on, an increase, far from inconsiderable, might be made of the productiveness of every farm, and, whilst profit thus accrued to the farmers themselves, the general wealth of the nation would be proportionably increased, a larger amount of food supplies would be produced within the United Kingdom itself, and we would have the less need of importation from abroad. All this, we believe, might be accomplished without the keeping of poultry becoming a principal care of the farmer on any farm large or small, but by its being pursued merely as subordinate and accessory to other things.

Poultry—or, at least, most kinds of poultry—if left to roam at

large, find great part of their food for themselves, picking up the scattered grain from the stubble fields, eating great numbers of snails, slugs, worms, caterpillars, grubs, and insects of various kinds, and thus rendering good service to the farmer, and in general doing very little harm to any kind of crop. We would not, indeed, recommend the turning out of a flock of geese to feed in a fine pasture field, or amidst a young hay crop or young crop of any kind. They are great devourers of grass and other kinds of vegetable food, and destroy as much as they eat. But other kinds of poultry—common fowls, turkeys, and ducks—do far more good than harm, except at certain seasons of the year, and in certain circumstances, as when the seed has newly been committed to the ground in spring, or the turnip seed at a rather later season, and especially in autumn, from the time when the grain begins to ripen till it is removed from the field. In many parts of the country it is the common practice to shut up poultry for a number of weeks in harvest time, leaving them free to roam about at all other seasons. This plan has its advantages as far as the grain crops are concerned, but, as generally carried out, it is very injurious to the poultry: they very soon cease to lay eggs, pine, and become emaciated, so that a considerable time elapses after they are set at liberty again, before they recover their former good condition, and resume the interrupted laying. From this it has been hastily concluded by many that poultry will not thrive, and cannot be profitably kept, unless they are permitted to enjoy absolute freedom. This, however, is very far from being the case. The farmer's poultry, when shut up in the harvest time, are generally either confined in an out-house nearly or quite dark, or in a sort of cage in which they have hardly room to turn. No wonder that they pine, and that the supply of eggs is cut off, even if their supplies of food and water are plentiful, and there is very often much carelessness as to the supply of water, whilst in that of food there is far too little variety, and variety of food is essential to the health of fowls as well as of man.

But poultry do very well, and may be profitably kept in confinement, if it be such that they have plenty of sunshine and fresh air, with room to disport themselves according to their pleasure, and if they are duly supplied with abundance of food, sufficiently various in kind, with abundance of water, and with what are equally necessities of life to them, lime in some form or other, and gravel or very small stones, which they swallow as almost all granivorous (*i.e.*, grain-eating or seed-eating) birds do, to assist in the trituration of food in their digestive organs. This has been found to be

the case by all who have fairly tried the experiment, as many occupants of suburban villas have done, and sometimes even residents in towns, with stocks of poultry varying from half-a-dozen to fifty or upwards, and have thus had it in their power to enjoy the luxury of new-laid eggs, of which, when boiled, the white has a creamy or curdled appearance, and both white and yolk a delicacy of flavour far surpassing that of a perfectly fresh egg kept for even two or three days. But it is much to be regretted that the keeping of poultry in this way has hitherto very seldom been attempted by those who, having opportunity for it, might find in it a source both of enjoyment and profit, and to whom the profit that might be derived from it would be of no little importance. If poultry can be thus kept with real profit, as we believe they can, why should not the numerous artisans and others of the working classes, who inhabit cottages in the outskirts of towns and in the vicinity of public works, have their hen-houses, and besides partaking of the produce themselves, contribute from it to the supply of our markets and add to their own incomes by the price? The writer of this paper was led, many years ago, to try the experiment of poultry keeping. He was encouraged to attempt it by the success which was reported to attend it in an instance which came under his notice. An engineer had erected a poultry-house and fenced in a large court for the poultry in a yard connected with his works, and keeping there about seventy fowls, declared that he found them decidedly a source of profit. The writer tried the experiment on a smaller scale, but with perfect success. His residence was in a village, and his poultry-house was erected in his garden, where fowls going at large would have been an intolerable nuisance both to himself and his neighbours, for no garden can be kept in tolerable order if hens are permitted to scrape in it; although ducks—which do not scrape—are very useful in a garden, being great consumers of snails, slugs, caterpillars, and other such pests. There was no wall against which the poultry-house could be made to lean, without the sacrifice of fruit trees, and it was therefore necessary to make it an independent structure, placing it where its unsightly appearance should not be very much obtruded on observation, and yet where there was a free circulation of air and plenty of sunshine. The house faced the south, and the court in front of it had the benefit of sunshine almost from sunrise to sunset. These are points of importance to be attended to by every one who thinks of erecting a poultry-house of the kind now spoken of; although it is not absolutely necessary that poultry should enjoy sunshine, if they choose to go

out into their court, at all times when there is sunshine at all ; but a north-west angle of a wall will suit very well, furnishing two sides for the poultry-house, and thus materially diminishing the cost of its erection, whilst affording the advantage of sunshine from early morning till the middle of the afternoon. An eastern exposure is better than a western one, because poultry are very early risers and retire early to rest.

The poultry-house which the writer erected, was a very simple structure, about 10 feet in length by 5 feet in width, and was formed by fixing in the ground wooden posts about 6 feet high, nailing upon them a number of spars, and surmounting them with a sloping roof, the whole being thickly thatched with straw, the sides as well as the roof, and the only opening being a door. A window is utterly needless in a small poultry house. The straw was preferred to wooden slabs as affording greater warmth, and served its purpose well. Internally, the house had a floor stretching half across it, fully four feet from the ground, a rude ladder for the fowls to ascend to the floor, made by nailing little spars across a plank, and a few projecting spars for roosting on. A little hay was provided for nests. The court for the poultry extended southwards from the front of the house. It was about 20 feet long, and 10 feet wide, and was formed of slender upright posts about 6 feet high, bound together by wood at the top and in the middle, and the sides completed by a net-work of wire, with very wide meshes. The top was similarly covered with a net-work of wire, so that no fowl could get out unless the door were accidentally left open, although young chickens sometimes did make their way through meshes near the ground. Two or three poles across the court served as perches, of which some of the fowls made much use during the day, when the weather was fine, and from which the cock used to crow many times of a morning, vying with the other cocks of the neighbourhood. It remains only to be mentioned that a hole in the bottom of the poultry-house door permitted the fowls to get out into the court as early in the morning as they pleased, although the door was shut, as it always was at night, except during the finest summer weather, for the sake of warmth, which is most essential to the well-being of poultry. About a dozen hens and a cock were usually kept in this poultry-house ; the number, however, being sometimes considerably increased by the addition of chickens. The only fault found in it was the want of sufficient accommodation for hens during incubation ; but it so happened that this could be quite conveniently provided elsewhere.

This particular description has been given that it may be seen

how simple the whole affair is. Any one who consults the ordinary books about poultry, will find such descriptions of poultry-houses and their requirements as well as of the attention requisite in the management of poultry, as may probably deter him or her from making any experiment in the way of poultry keeping, unless having plenty both of money and of leisure ; but the rules necessary to be observed for rearing prize poultry are not all necessary nor even suitable where it is wished to keep poultry as economically as possible, and with a view to profit. The author found his poultry-house decidedly a source of profit, although of course not on a large scale. He was led to pay particular attention to this, in consequence of the remarks of friends, who all agreed in ridiculing the idea of his keeping poultry with profit, and in saying that it would be far cheaper to buy fowls and eggs. "Ah! sixpence an egg!" said one, speaking of the eggs from the poultry-house. A regular account was, therefore, kept for more than a year of every penny expended on the poultry, and of all the fowls, chickens, and eggs which the poultry-house yielded ; and the result was that the profit was very considerable.

A few words may now be said about the management of poultry. Attention to a few very simple rules will ordinarily ensure success. The supplies of food and water must be unfailing. The water-trough in the court of the poultry-house should be always refilled before it becomes dry, and it should not be allowed to become very dirty. As much food should be given as the fowls are capable of using. They should get a little oats or Indian corn once a day, but their principal food should consist of something softer, as a mixture of bran and "hen meal," made into a paste with hot water. Boiled potatoes are very good for them, and all the scraps from the table and refuse of the kitchen. Those who study economy will often find it possible to purchase slightly damaged articles very cheaply, with which poultry may be fed. They are much the better for a little animal food, which they evidently eat with great relish. Fresh vegetables are almost absolutely necessary for them ; chopped nettles, and many kinds of garden weeds—as chickweed, groundsel, dandelion, and orach—are eaten with avidity ; and they should get all the outer blades of cabbage, shells of green peas, and the like. Where there is a garden, a great variety of things of this description will always be found for them, and their supply of animal food may also be varied by an occasional dish of snails. The author, finding snails a great nuisance in his garden one summer, when the weather was for a long time unusually moist, caused them to be gathered by children, and then bethought him-

•

self of trying if the hens would eat them. They were very quickly despatched—swallowed entire, shell and all! It was very amusing to see a hen look doubtfully at a large snail, turning her head so as to eye it askance, first with one eye and then with the other, and finally proceed to take it up and swallow it, although with a great effort, as it was too large to pass easily down the throat. It remains only to be observed that the poultry-house and court should be cleaned out from time to time,—by which a supply of manure almost equal to guano will be obtained for the garden,—and a little gravel and lime-rubbish, or lime-rubbish alone, strewed in them.

For turkeys, a larger poultry-house than that just described would be requisite, and young turkey-poults need much more care than chickens. The keeping of ducks ought not to be attempted where there is not a very abundant supply of water.

As to the keeping of poultry by farmers or others in the country where there is abundance of space at command, a large stock might be easily kept in an enclosure protected by a wall from cold winds, and furnished with a poultry-house or poultry-houses, without the necessity of covering it above with wire netting. A wire netting surmounting the wall would probably keep them in.

Nothing has here been said of the breeds of poultry; and it may be enough to say that by those who seek only for profit in poultry keeping, many of the breeds most esteemed by poultry fanciers are to be avoided. It will not be difficult for those who desire to enter upon poultry keeping with this view, to find out what kinds are most productive of eggs and at the same time good for the table.

A word or two may be said, however, in favour of ducks. As has already been pointed out, they are useful rather than injurious even in a garden, and this is equally the case as to the fields of the farm, in almost all circumstances. They do not scrape, and thus the chief objection urged against common fowls and turkeys does not apply to them. Grubs and other pests that live underground are, of course, out of their reach; but all the molluscous and insect tribes that waste the leaves of plants they greedily devour. Wherever there is an abundant supply of water, they may be kept with advantage, and we wonder that farmers and other residents in the country do not keep large flocks of them, instead of a small number as at present is generally the case. There are a few localities celebrated for the production of ducks, but the practice of these localities is exceptional. We do not see why it should be so.

J. M.



## MANNA CROUP, MILLET, AND MAIZE.

---

AMONGST the many food products of this country, the value of which are not so well known as they ought to be, is a small grained grass, the *Glyceria fluitans*, Br., the prepared seeds of which are known as Manna Croup. The species grows in watery places in most parts of Britain, flowering in July and August, its stems, which are from one to three feet long, floating on the water. Cattle are very fond of these stems and the foliage, and it is said that it was through these animals having been seen to wade through the water to some distance in order to reach them, that the nutritious nature of the seeds was discovered.

The plant has a wide geographical range, being found in other parts of Europe, North Africa, West Siberia, Himalaya, and North America. It is an article of considerable use in Germany, Poland, and Russia, and quantities were at one time, and, perhaps, are still imported into this country from the Baltic.

It is used in a similar way to corn-flour, ground rice, sago, etc., for making light puddings and blanc-mange, also for porridge and for thickening soups.

The *Glyceria fluitans* is only one of many instances where a wider knowledge of its utility would lead to a more extended range of applications, the same might almost be said of the several varieties of millet, species of *Panicum* and *Setaria*, which are used very much in Italy and other parts of Continental Europe, but which are only occasionally seen in this country. In India the seeds of species of *Sorghum*, notably *S. vulgare*, are extensively used as food, its cultivation being conducted on a very extensive scale; the flour from the seeds is very white in colour, and is said to make bread of good quality. It is not only used for human food but also for feeding horses, cattle, and poultry. Though the English climate has been found too cold and damp for the proper ripening of the seeds of the *Sorghum*, quantities might be brought to this country if a sufficient demand were to arise for them, for the preparation of a new kind of "corn-flour." It is not so many years since the now well-known "maizena" first made its appearance, other articles, under the title of "corn-flour," having both previously and subsequently attained a certain reputation.

The maize plant (*Zea mays*, L.), now so largely cultivated in most of the warmer temperate regions of the globe, was originally,

no doubt, a native of America, where at the present time it is most extensively cultivated and forms a staple food product of the country. In Australia some of the varieties have been grown to great perfection. In New South Wales it is one of the most extensive and prolific crops grown; it is used, however, chiefly as food for horses. "The manufactured article, maizena or corn-flour," we are told, "has established itself in the colonial markets, and there is a considerable demand for it, at a retail price of 6*d.* or 7*d.* per lb. Maize is cultivated as far south as Moruya, in lat. 36° S., and is grown all through the coast districts to the northern boundary of the colony. Last year the average reported yield of the whole crop of the colony was 34 bushels to the acre. On the rich scrub lands of the Clarence River, the first crops, after the timber has been burnt off, average from 100 to 120 bushels to the acre; and, with reasonably good farming, the average of subsequent crops has been 65 bushels to the acre in that district. There is a steady demand for maize in the neighbouring colonies. Last year Victoria took 87,519 bushels and New Zealand 14,386 bushels. The total export from New South Wales was 732,657 bushels and bags, the estimated value of which was £109,412. Nothing can be more simple than the cultivation of maize, and it is a crop which matures quickly. Thus, in the county of Camden, for example, seed sown in October is ready for harvesting from February to April, and some varieties, sown in November, are ready for harvesting early in February. It appears to be free from the attack of insects and fungi. A failure of the crop is never known, and on the alluvial banks of some of the rivers it has been grown year after year for a quarter of a century and upwards. The average price in the Sydney market is 2*s.* 6*d.* per bushel." Here then, is one of many instances where an introduced plant has succeeded so thoroughly as to become almost the chief food product of the country.

JOHN R. JACKSON, A.L.S.

---

**A DANGEROUS DELICACY.**—The *Petit Journal*, of Paris, reports the case of a young man who was poisoned under singular circumstances. Having acquired a strong taste for the flesh of dogs and cats, he lately feasted upon a fine specimen of the feline race. He was shortly afterwards seized with a fit of vomiting, with excruciating pains. A doctor, who was sent for, discovered that the cat upon which the man had been feeding had eaten a rat which had previously swallowed some food mixed with poison.

## MARKETS OF THE MONTH.

---

THE public displayed its customary joyfulness, at Christmas, by large investments in such of the luxuries of life as are calculated to increase the pleasure of eating. Everybody, from the crossing-sweeper to the millionaire, became, at least for the nonce, an epicure.

In order to provide for these extraordinary demands, dealers in provisions exhibited enormous supplies of such delicious commodities, as are calculated to tempt the working classes to extravagance, and the richer portion of the community to a boundless expenditure. Paterfamilias opened his pursestrings, and materfamilias never, for an instant, expected to confine the housekeeping expenses within ordinary limits, during Christmas week. Visions of boars' heads sucking lemons, fat aristocratic turkeys, and apoplectic geese, met us in every street, whilst the more ephemeral delights of the pastrycook and the confectioner excited the rapture of the juvenile community. Plum pudding and holly are essential to the great day of the Christian year; good cheer and the yule log we can command; but there is one thing which old-fashioned folks were wont to connect with Christmas time, the sharp frost and the snow-clad country, which we in these latter days are beginning to consider a very pretty myth, but nothing more than a myth. Our times must be out of joint; our earth must be traversing a course in space considerably nearer the sun than it did some years ago, for a green Christmas is the rule now-a-days. We cannot command the seasons, but we can command good living for a week in the year, and a visit to any metropolitan market, or the streets of any of our towns, would have proved pretty clearly that we intended to enjoy the creature comforts of life as well this Christmas tide as in any previous year. With coals at two guineas a ton, it is, perhaps, as well, for the poorer classes, that Father Christmas came to us in his summer clothing. Bread is not dearer, and I see no reason to expect that it will be for some time to come. There have been large arrivals during the month of American wheat and flour, and prices have ruled in favour of buyers. In the sugar market there has been a slight recovery from the very depressed state which has ruled for so long, but prices are

still very low. The tea market exhibits an improved tone ; coffee is dearer, and prices are advancing for all descriptions. A speculative demand has occurred for cloves, and prices have rapidly advanced.

The "Gardener's Magazine" states that the potato crop of 1873 is considerably larger than that of last year, but it is not sufficient to constitute a fair average ; prices remain but little changed ; large importations from abroad continue to arrive.

On Monday, the 16th of December, the annual Christmas cattle market was held, a good show of animals being exhibited, though perhaps it cannot be said that the result exceeded expectations. The Scotch beasts were especially worthy of notice ; our neighbours over the border appear to have discovered the art of placing the maximum amount of meat on the smallest possible frame in the minimum of time. Cross-bred stock were well represented, and the condition of other kinds exhibited was good. The show of foreign stock was confined to receipts from Holland and Spain, and there was a good supply of indifferent Irish beasts. The number of beasts shown was smaller than it has been since 1868, and the prices realised were from 6*d.* to 8*d.* per stone higher than last year. The supply of sheep was only moderate. Our meat supply is becoming a more important question every day. The increasing prosperity of the working classes causes the growing demand, and, unless something adequate can be done to supply such increasing demand, I fear that we shall find that we have not yet reached the maximum price of the leg of mutton.

In the poultry market large supplies are being received ; prices are higher than they were last month. Turkeys are making from 1*s.* to 1*s.* 6*d.* per lb. ; game and other kinds of poultry are not much dearer than they were last year.

At Billingsgate, preparations for the increased demand will be met with adequate supplies, but somehow or other the public do not invest largely in fish at this season. Sprats are the cheap luxury of the season ; salmon, at 4*s.* 6*d.* per lb., the expensive luxury for the rich ; and lobsters are in great demand, as also are oysters.

Covent Garden displays vast quantities of oranges, nuts, and all kinds of fruit ; there the productions of the tropics repose in baskets side by side with the fruits of our more temperate clime. The consumption of oranges especially at this season is enormous. Seakale, new potatoes, rhubarb for tarts, cucumbers, French beans, and asparagus are in demand.

P. L. H.

## NOTES OF THE MONTH.

---

THERE is, perhaps, no article of food or drink more injurious to the health than water, when adulterated or impregnated with any foreign substance; and yet, while the most vigorous attempts are being made to check the unwholesome system of food adulteration in every part of the kingdom, water, the only substance rendered impure without the intervention of man, is escaping the care and the vigilance exercised over articles of infinitely less consumption. As a matter of course, the water supplied to our towns and cities cannot be as pure and good as that used in country districts; at least, such would be the practical conclusion of the majority of the community. The absence of cisterns, tanks, reservoirs, and pipes, would appear to have much effect on the purity of the water in use in our villages and country districts, and before forming other opinions we would need both strong and striking proof as to the fallacy of the assumption. Ireland can, in a measure, supply this. It has long been a fact, almost unanimously undisputed, that the water consumed in Ireland is the best and purest to be found in any other portion of the United Kingdom. The north, the east, the west, and the south are, or have been, supplied with water unexceptionally free from all impurities, and in this the country has rejoiced. But that at least one portion of the island has been mistaken, is obviously evident from the report of Professor Hodges, the public and popular analyst for Belfast, which has just been receiving the attention of the Chemico-Agricultural Society of Ulster. For a length of time Dr. Hodges has been carefully examining, and submitting to analysis, numerous samples of water consumed in the north of Ireland; and, if only for the sake of information, we consider his remarks worthy of special note and prominence. Dr. Hodges states that in many cases the supply in country districts was found to be more impure than the water supplied in Belfast and other large towns. It is to be regretted that the waters from deep wells in Lurgan and many places in the north of Ireland were exceedingly hard from the presence of lime in large quantity. Usually the waters from deep wells were comparatively free from sewage pollution; but the hardness was so

great that their use for domestic purposes could not be considered advisable. Very hard waters contained much lime and magnesia, and especially sulphate of lime would, in many cases, be likely to act prejudicially. The superior brilliancy of waters from the chalk limestone, and the brisk, pleasant taste which they usually possessed from the excess of carbonic acid gas—the gas which renders what is sold as “soda water” an agreeable beverage—caused many to prefer them to waters from districts poor in lime. Dr. Hodges believed, from all the information which he could collect on the subject, that whilst the use of moderately hard water could not be regarded as injurious to health, the hard waters, such as formerly supplied to Liverpool, and which were supplied to many towns in Ireland, were, in cases, a cause of disease by lessening the secretions and causing disorders of the viscera. A specimen of water from Silver Stream, Carrickfergus, which had been examined in the laboratory of the society, contained as much as 71·7 grains of solids per gallon, and gave 21 grains of common salt and 12·7 grains of gypsum, the remainder being chiefly carbonate of lime. The water supplied to Belfast contained only about 2½ grains of carbonate and 1½ of sulphate of lime per gallon, and if properly filtered, so as to remove suspended matters, would be of superior quality for drinking. Hard waters, it was well known, were not suitable for use in cooking and in many industrial processes. In washing with hard water every degree of hardness caused the waste of about 10 grains of soap per gallon. A German chemist, Reichart, had lately published a series of analyses of pure spring water from several rock formations, with the object of forming a standard to judge of the amount of contamination of particular wells in the localities from which the pure specimens were examined. Such analyses of pure water were valuable, as enabling them to determine the alterations which particular specimens might have experienced. Dr. Hodges hoped, at some future time, to arrange together the analyses of waters from the leading rock formations in Ulster. The waters from the granite districts of Mourne presented a striking contrast with those from the clay slates of the north of Down; thus, waters from near Newry frequently contained no more than about 6 grains of solid matters per gallon, while wells in the neighbourhood of Downpatrick gave from 30 to 40 grains per gallon. Dr. Hodges then proceeded to give a lengthy analysis of waters in the north of Ireland, in which he showed that the amounts of solid matters ranged from 76·30 to 17·50. The result of these investigations cannot fail to be interesting to the public, and especially when we remember

that water is the article of largest consumption in all matters concerning food and drink.

---

A CORRESPONDENT of the *Queen* recently suggested that many of the infirmities peculiar to domestic servants are attributable to the habit of excessive meat eating, in which such persons indulge, arising out of their objection to farinaceous food, vegetables, and dishes of which these latter constitute a part. The writer complains that if servants are ordered a curried dish "they regard the rice as a garnish, and cannot be persuaded to partake of it as a part of the meal," and proceeds to state that "it would be a kindness to inform them that, when animal food is relied upon, it cannot maintain the system in health," the reason being the absence therefrom "of the wholesome corrective properties which are contained in the food derived from the vegetable kingdom." It may be mentioned here that many mistresses display great reluctance to allow their servants anything beyond the staple fare of beef and mutton, with the single addition in the way of vegetables or potatoes, a reluctance arising from the belief that as much beef and mutton would be eaten with the vegetables as without them, and that, consequently, to purchase these last would be mere waste. The same remarks apply to the case of puddings, because, as "An Experienced Mistress of a Household" very truly remarks, servants "eat pudding as an extra, taking care, however, to satisfy the appetite with meat before pudding time arrives." Vegetables, it is admitted on all sides, are as necessary to health as meat, but the small quantity of the former consumed by domestics as compared with the latter is often attributable to the niggardly dispositions of mistresses rather than to the luxurious habits of their servants.

---

MERE excess in imbibing strong drink is not, as most people are aware, an offence of which the law takes cognizance. It is only when that excess is accompanied by some circumstance which renders the inebriate offensive or dangerous to his neighbours that the officers of justice are authorised in arresting him. Hence, the boast of the teetotallers that no one is ever fined for eating too much, loses a little of its significance, notwithstanding the fact that excessive drinking is often attended by such a result. It is a very popular practice to associate acts of violence with the habit of drinking intoxicating liquors, as if the violence were directly attributable to the habit, the truth being, more possibly, that according to the disposition and temperament of the individual, so

---

the influence upon him for good or evil of strong drink; for whereas some are thereby impelled to acts of disorder, others are soothed and mollified. Now, if the abstainers are to take credit to their side for all the evil consequences attending the *abuse* of alcohol, may not the non-abstainers take also to their side the credit of all the good resulting from its *use*, this last not being so insignificant as Good Templars and other kindred spirits would have us believe? Indeed Dr. B. W. Richardson, who cannot be regarded as favourably disposed to the use of alcoholic beverages, is compelled to admit that—

“There are times in the life of man when the heart is oppressed, when the resistance to its motion is excessive, and when blood flows languidly to the centres of life, nervous and muscular. In these moments alcohol cheers! It lets loose the heart from its oppression; it lets flow a brisker current of blood into the failing organs; it aids nutritive changes, and altogether is of temporary service to man.”

The Anglo-Saxon has at all times been remarkable for his devotion to beef and beer, and looking to the results achieved by the race, we may very fairly disregard the warnings and lamentations of the vegetarians and the Good Templars, resting assured that such results furnish the best answer to their respective doctrines, in which, of course, some trace of genuine metal is observable, despite the presence of so large a quantity of alloy.

---

WE have heard a great deal lately of a probable diminution in the supply of those most important fruits, oranges and lemons. We do not fear any falling off in the supply, and are glad to learn in a recent report from Sicily that the cultivation of oranges and lemons is rapidly extending. In the neighbourhood of Palermo, Messina, and Catania fresh ground is everywhere being planted with these trees, and machinery is introduced to some extent, for the purpose of artificial irrigation. The disease, which has committed great havoc among the lemon trees, while almost sparing the orange groves, first made its appearance in 1864, in the plantations near Messina, whence it has spread to some other parts of the island. It first attacks the root of the tree, then a foetid gum exudes from the bark, which gives the malady the name of *mal di gomma*, and the tree soon perishes, sometimes in three or four days from the first attack. Sulphur, pitch, charcoal, lime, and other remedies have been applied in vain; the disease resists them all, and the only course now adopted is to cut out the spots on the bark, which are the primary symptoms of the disease. Young trees are more liable to its attacks than those of mature



growth. With regard to the vine disease, we learn that it has entirely disappeared from Sicily for some years. Yet, by way of precaution, the sulphurisation of the vines is still practised, after they have budded, and especially after heavy rain. The vine is cultivated in almost every part of Sicily, and grows nowhere more luxuriantly than in the volcanic soil on the slopes of Etna. It has many varieties, both black and red, the latter being used almost entirely for the press. The cost of this cultivation varies according to the different modes employed, whether by the plough or by the spade, and according to the character of the vines, those of superior quality demanding more careful culture. The average annual expense, however, is about 12 francs the thousand plants, or about 32 francs the acre, there being about 2,760 vines to the acre, planted at the distance of 4 feet 9 inches apart. Where the cultivation is entirely by the spade, as on the slopes of Etna, the annual expense rises to nearly 60 francs per acre.

---

LOCUST beans (*Cecatomia siliqua*), the dry brown pods of which are so well known to children in poor neighbourhoods, and little heaps of which may be often seen usually in company of monkey nuts (*Acachis hypocæa*) in the windows of small chandlers' shops, form an important article of food in some countries where they grow. The tree producing these well-known pods is a small branching tree about thirty feet high, with pinnate, dark green, leathery leaves and small red racemose flowers; it is extensively cultivated in several parts of Europe and on the African coast of the Mediterranean. It is known as *kharoub* by the Arabs, whence *carob*, a name often applied in this country, is derived. It is also known as St. John's bread, having been, as was at one time supposed, the food of St. John in the wilderness. The most recent use to which these beans have been put in this country is in the composition of patent cattle foods; but in the island of Cyprus, where the tree grows well in most soils requiring little care in its cultivation, it yields a valuable food product, which is increasing in value and extent throughout the island. Though the tree grows and thrives without much moisture, the yield of fruit is affected during dry seasons, the quantity being less and the quality inferior. The estimated quantity produced in all the districts of the island during the past year amounted to about 10,000 tons; the export is said to be chiefly to the Russian ports of the Black Sea, and the average price obtained in Cyprus during the season of 1872 was reckoned at about £4 10s. per ton, which, however, was above the average price usually obtained.

## DOMESTIC RECIPES.

## HOT POT.

Hot pot is a dish which is believed to be peculiar to Lancashire, Cheshire, and Yorkshire. It is, however, so very cheap, savoury, and nutritious, that, probably, the readers of the *Food Journal* will be glad to have it introduced to their notice. There are more than a hundred different forms of it, but the principle, in all cases, is the same—that of cooking the meat under a solid mass of potatoes, thereby preserving all the steam and all the nutritious matter which would evaporate under any other method of dressing it. The utensils are very simple—an earthenware pot of an oval form capable of containing about two or three quarts, and a moderate quick oven are all that is necessary. The ironmongers in Manchester and elsewhere sell tin dishes with perforated covers, but the judicious cook will carefully avoid them. Meat is always infinitely better if it be cooked without contact with metal. Without further preface I proceed to my recipes. All of them have been fully tested, and are indeed in constant use in my own household from October to May. The simplest form of hot pot is :—

**HOT POT OF COLD MEAT.**—Take cold mutton or cold beef, or both ; cut from the bones into neat pieces as for a hash, pepper them well, add a little salt and two ounces of chopped onion (Spanish for choice) to every pound of meat. Break the bones and put them in at the bottom of the dish, add the pieces of meat, put in half a pint of cold water or any gravy you may have by you to the same quantity, cover with a layer of potatoes, cold and mashed without butter or milk, and put on the top as many potatoes, freshly washed and cut into pieces of a convenient size, as may be thought necessary. Bake for an hour in a moderately quick oven, and serve in the dish with a napkin tied round. [This is the roughest form of the dish, but it is greatly improved if, instead of stewing the bones in the hot pot, they are put into the stew-mug over-night with any other bones that may be handy, a head of celery (or the outside leaves of two or three heads), and an onion stuck with cloves. Let this stew all night, and indeed until required for use ; then strain the soup clear and add it to the meat.]

**MUTTON HOT POT.**—Four pounds of neck of mutton ; remove the bones and stew them with a little water as above directed ; cut the meat into collops ; add pepper, salt at discretion ; one Spanish onion cut into rings ; put in the gravy, proceed as before with the potatoes, and bake for two hours.

**BEEF STEAK HOT POT.**—*First way* : Three pounds of steak cut into convenient pieces, a pint of water, one onion, or two leeks, pepper and salt at discretion. Proceed as before, and bake for an hour and a half. *Second way* : Make a good gravy with half a pound of gravy beef and any bones that there may be in the larder. Two pounds of rump steak and a tin of American oysters. (If you are of a luxurious temper a score of Colchester or Whitstable natives will be better.) Omit the onions and leeks and proceed as before. *Third way* : Supposing that some kind friend has sent you grouse, or partridges, or pheasants, that have been badly shot, or that have gone too far for roasting, add them to the beef steak in the proportion of one pound of steak to a brace of partridges, or one grouse or pheasant. A little onion will be found an improvement in this case.

**LASTLY : THE KING OF HOTPOTS.**—For this you will require a larger dish, as it is designed for a family. 2 lbs. of rump steak, 1 lb. of mutton from the loin, 1 fair-sized wild rabbit, 1 grouse, 2 partridges, and as many small birds, larks, ruffs and reeves, pigeons or quails, as you can get. Split the larger birds into about six parts, and cut the beef into pieces of a convenient size for one person ;

put a layer of beef at the bottom of the pan with half-a-pound of lean dry ham cut into very small pieces; then put in the mutton, and a score or two of oysters with their liquor; then the rabbit and the game with another half-a-pound of ham, peppering and salting as you go on, and mixing with your seasoning one fair sized onion cut as small as possible; put the small birds whole upon the top; add two or three pints of stock, according to circumstances; cover with mashed potatoes to the depth of at least an inch and a half, and bake in a slow oven for two hours and a half; brown the potatoes with a salamander, and serve as hot as possible. This sounds a very expensive dish, but it is not so in reality. It is always easy to get game that is beginning to "go" at a very low price, especially on Saturday nights, when sixpence or a shilling will often purchase a brace of grouse. Treated in this way it does not greatly matter if they are very high. The above recipe was carried out a few weeks ago. It costs exactly 15s. 1d., made up thus:—3 lbs. of meat, 3s.; rabbit, 1s.; grouse, 10d. (it was exceedingly high and, therefore, all but unsaleable); two partridges, in the same condition, 1s.; four pigeons and a dozen larks, 5s.; 25 oysters, 2s. 6d.; 1 lb. of ham, 10d.; seasoning sage, 3d.; the potatoes had been left from the dinners of three consecutive days by a careless servant, and would have been thrown away, so that I may fairly put them at nothing, while the stock was made from the carcase of a pheasant, the liquor from a boiled leg of mutton, and the outside sticks of half a dozen heads of celery and an onion. The dish served for eleven people, two of whom are blessed with prodigious appetites, and furnished a capital supper for three servants.

P.S.—A brace of snipe put at the bottom of a hot pot dish and covered with a pound of steak make a delicious dish for two persons.

## MY GRANDMOTHER'S RECIPES (*continued*).

### A GOOD BREAD PUDDING.

A pound of bread, a pound of suet, and a pound of currants, a pint and a half of milk, seven eggs, a small nutmeg, three spoonfuls of white wine or brandy, sweeten to your taste; an hour will bake it.

### CURD CHEESECAKES.

To 10 quarts of milk, put 10 ozs. of butter, a pound and a half of currants, a pound of sugar, a pint and half of cream, half pint of wine or brandy, nutmeg, cinnamon, cloves, mace, and a little salt.

**COD-LIVER OIL LOAVES.**—We read that compounds so-called have been introduced into French medical practice, but we have not yet had an opportunity of testing the extraordinary statement respecting them made by Messrs. Carré and Lemoine in the *Bulletin de Thérapeutique*. They state that of all means of disguising the taste of cod-liver oil its introduction into bread during panification is the best. Every pound of bread should contain 75 grammes of oil (five table-spoonfuls), and about 90 grammes of milk. Small loaves may be made weighing 150 grammes, and containing only two spoonfuls of oil. They are very white and pleasant to look at, and have so little taste of the oil that both children and adults eat them with ease. 34 of these rolls are delivered every day at the Enfants-Malades for the use of M. Bouchut's little patients, and the children look out for them with pleasure. They are easily digested, and create no repugnance whatever. In private practice adults make use of them as their ordinary diet.—*Chemist and Druggist*.



1

1









